

VOL. 3 ISSUE 5

\$5.00



**January - February
1994**

IQLR.....

IQLR is published by
SeaCoast Services
15 Kilburn Court
Newport, RI 02840 USA
Tel/Fax: 401 849 3805

PUBLISHER: Robert Dyl, Sr.

IQLR is published bi-monthly. Our volume year runs from 1 May through 30 April. Subscriptions begin with the current issue at the time of sign up.

Subscription rates are as follows:

USA	\$18.00 per year
British Isles & Europe	\$32.00 (US Funds)
Canada	\$21.00 (US Funds)
Central/South America	\$32.00 (US Funds)
Rest of World	\$38.00 (US Funds)

IQLR can accept Pounds Sterling (£) or DM bank notes (currency) equivalent to the US\$ amount. GENEROUS discounts are available to User Groups/Clubs placing subscriptions for four or more members. Contact IQLR for additional information.

We welcome letters, comments, suggestions and articles from our readers. IQLR is constantly changing to meet the needs and requirements of all QDOS users.

Articles submitted for publication should be on a 3.5" DD disk, in either Quill or Text87 format. Saved Screen dumps should be produced with the Sbytes command. Please specify where in the text you would like the Screen dumps to be printed.

Submission DEADLINES are as follows:

Issue 1	15 April
Issue 2	15 June
Issue 3	15 August
Issue 4	15 October
Issue 5	10 December
Issue 6	15 February

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IQLR is produced using a QL equipped with a Gold Card, Minerva ROM, Hermes co-processor, Keyboard-90 and Qimi mouse interfaces. Masters are printed on a Hewlett Packard DeskJet 500.

The software used to produce the text of IQLR is Text87 Plus4 version 4.

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EDITOR S/E (PART 2)

Massapequa, New York USA - Bob Gilder

"An Overview, Tutorial and some Ramblings"



In the first installment of this Editor series I explained how to write command files and outlined the Editor HELP files. I also mentioned that if you are an Editor user and wish to have hard copies of the PSION 4 _hob's or XCHANGE _hob, you can use The Editor to do most of the work for you. Just READ in the _hob file with the RU command. Below is a command file listing that will do MUCH of the formatting of the _hob files for you.

Press F3, Enter T RP E/CTRL-SHIFT-Vertical bar character// S

The CTRL-SHIFT-Vertical bar character will appear as a down arrow with a bar on top. Explanation: T top of file, RP Repeat Character, E/CTRL-SHIFT vertical bar character//, Exchange that character for a Null string (delete that character), S Split current line at that point.

You will also find strings that were indented or tabbed with the following Control character at the beginning of each indented string; CTRL-I. If you want Editor to the job of eliminating these characters for you, enter:

F3, RP E/CTRL-I CTRL-SHIFT-C// N

```
Paragraphs = nPrompts = (Typeface = (= PROMPTS) The PROMPTS are the messages shown
x. There are two sets of commands, COMMANDS and COMMANDS II. Select COMMANDS II by
ers. To exit part way through or to cancel a command press ESCAPE. Commands II are
Design ATEraseA Footer A(Goto A25Header A(GJustifyAFlood APChanginsAZEPrintADE
command press ESCAPE. IF filesA HyphenateA MergeA EOTHERA EPage A(GReplaceA Search
ling. B= INSERT AND OVERWRITE MODE. There are just two MODES: INSERT and OVERWRITE.
t at the cursor position. If more than one word is inserted into existing text QUIL
no mode is shown then text cannot be added or erased. NOTE: QUIL operates faster
binations that delete text. To delete: The character left of the cursor-CTRL & le
rrow. The line to the left of the cursor-CTRL & up arrow. The line to the right o
ble. BOLD is to emphasise a heading, word or words. UNDERLINE underlines a headi
he screen the typeface shown is the typeface that the next character typed will appe
first letter of the typeface you wish to select; to select more than one repeat the
of the text to be changed and press F4, press 'P'. Then select the typeface requir
ENTER. B= CURSOR. The cursor is the small red/magenta block in the central part o
the left right arrow moves one character to the right up arrow moves to the lin
f the paragraph SHIFT & down arrow moves to the start of the next paragraph. B= F
name itself and not the file name extension (eg .doc). QUIL assumes that flp2 is t
phabetic character and can be up to 8 characters long. No spaces are allowed. ' ' d
o 3 characters long. Generally you do not have to type them in. LOAD, SAVE, MERGE.
In IMPORT the file should have extension .exp; you do not have to type this in.
e in flp1 at any time the red light is not on. You may change the diskette in flp2
file on flp2; you will be aware of this as the red light will come on while you are r
ENTER again to leave a blank line between paragraphs. These "blank paragraphs" cor
Line: 33 Col: 84 Line count: 82 Mode: Insert 118
```

After you have rid the rest of the document of some additional control characters by hand, joined some sentences which had a word split in two, you can enter the following command after you have placed the cursor at the beginning of each paragraph:

F3, JR PR

JR - Justify Right (JL for Justify left can be used instead of JR), PR Paragraph Reform, OR if you wish to have Editor Reformat each paragraph of your text file, then enter the following commands on the command line:

F3, JR RP PR N

Note that this command makes use of the RP (Repeat Command) command between JR and PR and the last command N (Next line) which automatically Reforms all of the paragraphs in your text file provided that are separated by one blank line.

EDITOR S/E - (CONT'D)

Before activating a PR command, it would be a wise decision to set or reset all margins so when you reformat paragraphs, they fall into the margin spread of your liking. Use the margin commands as instructed in the previous Tutorial.

Always be certain that before you enter the PR command that all of your paragraphs are separated from each other, otherwise The Editor will not be able to distinguish between both paragraphs and only see one large paragraph to reformat for you.

Within The Editor manual it is recommended that the user READ in the EDT_HELP file within Editor itself, delete the line numbers and print out the five pages of Help instructions - this is really a very good idea so they can sit alongside your QL while you are having a session with The Editor. You can mark certain commands that you have used, perhaps with a simple explanation of how those commands work. This way, you will have a guide for issuing commands that you know will work!

You can READ in the EDT-HELP file, make modifications to it or you can add additional information on an additional help window. You must add line numbers to your additions; just follow the original line numbers and add to them. You can then WRITE your new HELP file back onto disk or any other media. Before attempting to write your file to disk it would be a wise move to re-name the original help file before you are sure that the modified file will operate properly.

If you wish you can use the CONFIG program on the Editor disk to change the EDT_HELP name to some other name and write your file to your media with that NEW name and leave the original EDT_HELP file name intact.

The first HELP screen, Section - General, defines the QL Function keys. If you use an external keyboard interface the following commands can be activated with all ten Function keys:

- F1 - HELP
- F2 - RE-EXECUTE previous command
- F3 - EXECUTE
- F4 - RE-DRAW or re-fresh the screen
- F5 - Toggle between Overstrike/Insert mode
- F6 - Display the second HELP screen - start of the commands
- F7 - FIND /string/ (or EXCHANGE/string/)
- F8 - LAST COMMAND Repeat
- F9 - RE-SIZE the screen
- F10- Collect Garbage -Tidy up the internal data and control tables

The commands from F6 through F10 can be obtained by the following sequence of keys:

- | | |
|---------------|---------------|
| F6 - SHIFT-F1 | F9 - SHIFT-F4 |
| F7 - SHIFT-F2 | F10- SHIFT-F5 |
| F8 - SHIFT-F3 | |

Using the EDITOR's EDT-charset

EDITOR S/E - (CONT'D)

prepare a chart, say, starting with B for BOLD. You will not actually use the character 'B', you would use CTRL-SHIFT-B (a foreign character) at the beginning of each footer line. A command file such as the following will exchange the embedded CTRL-SHIFT B character with the footer string and embed the footer with the proper BOLD on/off characters before and after the footer string, for each occurrence of that CTRL-SHIFT-B character within your text:

```
T R P E /CTRL-SHIFT-B/ESC-E My document - page n -ESC-F/
```

Page numbers can be added while proof reading your text file.

If you require the £ character to be printed by your printer, again select any character associated with the printer control code commands. In this case, the 'f' character itself.

```
T R P E /£/ESC R CTRL-SHIFT-C # ESC R CTRL-f/
```

It seems like a lot of work, but really, it isn't, once you get the hang of it! Another note about the £ control string; when the translation from the £ character to the printer control code sequence has completed, the line where this translation had taken place will lengthen the line well right of the selected margin. DO NOT WORRY!. When the text file has been printed, the £ character will appear in its original place and the right margin will be aligned with rest of the paragraph, as it should be.

In reality, most text and document files do not use many printer control codes - Perhaps some words in Italics to highlight the first occurrence of that particular word; Double height and double width characters for paragraph headings; Bold for headings, footers and paragraph headings; Underline for some effect; Draft or Letter Quality printing; Printer reset and so on. The effort is well worth the additional time it takes to set-up your text with printer control characters.

After a while you will see many similarities such as E and F toggling BOLD on and off; Letter Quality and Draft Quality, CTRL-f and CTRL-A, 0 and 1, again another toggle, Italic on and off, 4 on and 5. These codes are easy to remember, just enter ESC with the Escape key from your keyboard (an UP-ARROW) and then the letter or number following ESC.

What characters will be the likely Editor user find useful? In the above chart the characters are represented by Name, Decimal, Hex and Control Characters. I will use decimal numbers to indicate which characters I use.

Characters from 0 through 9 are used as toggles, such as within the International Character set - 0 = USA, 1 = France, 2 = Germany, 3 = UK and so on, just consult your own printer manual for the entire International code table. Decimal 10 is a Line Feed, some printers require a LF command at the end of line in a text file. Decimal 12, Form Feed could be used as a page break. Decimal 13, Carriage Return may be required at the end of line depending on how the mechanical switches are set-up in your printer. The remaining decimal codes from 14 through 31 can be used only if YOUR printer can make use of them. Again, check your printer manual for compatibility.

EDITOR S/E - (CONT'D)

You may use some of the special characters within your text, however, knowing how they appear in other files, such as a _doc file will help you format a _doc or _hob file. Earlier in this session, I detailed a format command for _hob files which basically is in the same format as a _doc file. The Exchange command in that particular _cmd file looks for DOWN-ARROW characters, which appear to mean 'end of line' or 'beginning of a new line'. Two DOWN ARROWS indicate a new paragraph.

```
410 BORDER #2,1,0,7,:BORDER 1,0,7,3
420 PAPER 2:PAPER #2,7:INK #2,2:MODE 0
430 PRINT #0,"Welcome to SuperBasic, use it or press Alt F1 to return."
440 REMARK PRINT #0,"CTRL C normal": PAUSE 50: CLS #0
450 REMARK PRINT #0,"CTRL C see line 20"
451 INPUT #0;"Select a PRINTER DRIVER; Load The EDITOR; or BASIC? (P/E/B) ";AS
452 IF AS="e" OR AS="E" THEN GO TO 660
453 IF AS="p" OR AS="P" THEN GO TO 455
454 IF AS="b" OR AS="B" THEN GO TO 680
455 CLS: PRINT "";"Select printer driver"
456 PRINT " 1 - ITOH 8510A PRINTER DRIVER"
457 PRINT " 2 - PANASONIC KXP1124 PRINTER DRIVER"
458 PRINT " 3 - EPSON LQ-2500 PRINTER DRIVER"
459 INPUT #0;"Your choice? ";pr
460 DELETE flpl_printer.dat
461 SELECT ON pr
462 =1: COPY flpl_ITOHpr.dat TO flpl_printer.dat
463 =2: COPY flpl_PANpr.dat TO flpl_printer.dat
464 =3: COPY flpl_EPLpr.dat TO flpl_printer.dat
465 END SELECT
466 LRUN flpl_BOOT.edt
467 LRUN flpl_PIP_boot
468 STOP
469 DELETE flpl_TASK_BOOT: SAVE flpl_TASK_BOOT
Line: 47 Col: 84 Line count: 47 Mode: Insert
```

Next you may use a Find command to search for strings which require tabbing, so, set up an indent tab interval with this command, for example, TA10, or whatever interval you require. When your search uncovers an CTRL-I, leave the cursor on the control character and press the TAB key and that string will move to the column at the tab row you have previously set.

F/CTRL-SHIFT-I/

Note: This command only locates the CTRL-SHIFT-I character and after the search has completed, you must manually set the TAB key. It's all part of the fun! You will notice some other control characters identifying the Commands and the Name of the file - you can delete them or use them at your own discretion.

The CTRL-I characters must then be deleted. You can manually delete them if you choose or you can have The Editor delete them for you after you have finished Tabbing. The following command string will do that job:

F3, RP E/CTRL-I// N

By now you should know just what the above command will accomplish!

You should consult the Editor manual, Chapter 13, page 120, which will shed additional light on the subject of printer control characters. Section 13.5 illustrates a SuperBASIC simple printer driver which, when loaded into SuperBASIC and RUN, can print out your file, while you CTRL-C back into Editor and continue to type away while your file is being printed out!

I use this program when I have a long text file to print. Within this 'simple printer driver' program is a PROCedure Chec_for_pause. When a CTRL-P character is located, the printer will stop and happily await your command to re-start printing. I set the CTRL-P character at the beginning of page 11, 21, 31 and so on, so that the printer will pause, allowing the printer head to cool for a short while and check that the footer is

EDITOR S/E - (CONT'D)

located in the proper position; if not, I manually adjust the platten for proper alignment. The pause will also allow me to examine the printed text - if the printing has become light, I can change the printer ribbon and then carry on with the text printing!

Most files that I print with the simple printer driver are pages which are all ODD page numbers and EVEN page numbers. Once my text file is completed, spell-checked, formatted properly and I have added the necessary printer control characters, I set up a Block for each page and write it to disk as PG1, PG2 (page 1, page 2) etc. I have been doing this for so long now, that it only takes several seconds to set up a block for one page and write it to disk.

When all pages have been individually saved, I (F3, Z) ZAP the whole file from memory, and READ in PG1, quickly press SHIFT-ALT with two fingers and press the DOWN ARROW key 3 times and the cursor will stop at line 66. AT this point I press F3, enter AF.PG3 on the command line and page 3 will be appended (merged) to the bottom of page 1. I repeat this process over and over until all odd pages form an ODD page text file.

Note: When I have a large number of pages to append, I prepare a list of all ODD and EVEN page numbers and as I append these pages, I strike out that page number on the list so as not to leave out a page or forget to append a page!

It is written to disk as 'filenameODD'. Again, I ZAP out the 'ODD' text file after it has been written to disk and start the process all over again for the EVEN pages. When the EVEN text file is completed it is saved as an even file name.

I have printed as many as 175 pages this way. First I print-out the ODD pages, then the printed ODD pages are removed from the printer. The printer paper is turned over and then I make sure that I feed in page 1 facing the top of the printer and then set the proper starting place for printing the EVEN file. The simple printer driver program has been waiting for me to type in the new, EVEN file name and I press enter to begin printing the file.

Note: If you intend to attempt the same type of ODD/EVEN, back-to-back printing you should add an extra page at the end of the last ODD page, if, say you have 25 odd pages and 25 even pages. You may find that the last even page may stall just before printing the footer because the 'paper out' switch has been activated. My rule of the thumb is: If both files have the same amount of pages then leave on one extra blank sheet of paper on the ODD file and that will insure all text on the last EVEN page has printed completely.

If you wish to test out some text with embedded printer control characters, you can do so from Editor - just Write the file to ser1 and the printer will respond to your request. If, perhaps, you may only want a certain line(s) printed, say, lines 10 & 11, block out those particular lines and enter BW.SER1 (Block Write) on the command line and press Enter and your printer will do your bidding.

The Editor and Editor Special Edition can READ in SuperBASIC listings for review, editing and formatting if the user intends to print out listings without the printer writing along the perf line of fan fold paper.

EDITOR S/E - (CONT'D)

If you write SuperBASIC programs, The Editor is well worth using! When you need to GO TO a line number, just place the cursor on that line with the up/down cursor keys or use F3, GL number. Editing is quicker and easier in Editor, especially writing lines, deleting lines, or altering lines of SuperBASIC and the finished listing can be written to disk. You can then CTRL-C into SuperBASIC and LRUN your 'masterpiece' in stages of development.

Below is a SuperBASIC listing of a partial Boot program:

ASCII	DEC	HEX	EDITOR CTRL CHARACTERS	ASCII	DEC	HEX	EDITOR CTRL CHARACTERS
NUL	0	00	CTRL-@	DLE	16	10	CTRL-P
SOH	1	01	CTRL-A	DC1	17	11	CTRL-Q
STX	2	02	CTRL-B	DC2	18	12	CTRL-R
ETX	3	03	CTRL-SHIFT-C	DC3	19	13	CTRL-S
EOT	4	04	CTRL-D	DC4	20	14	CTRL-T
ENQ	5	05	CTRL-E	NAK	21	15	CTRL-U
ACK	6	06	CTRL-F	SYN	22	16	CTRL-V
BEL	7	07	CTRL-G	ETB	23	17	CTRL-W
BS	8	08	CTRL-H	CAN	24	18	CTRL-X
TAB	9	09	CTRL-SHIFT-I	EM	25	19	CTRL-Y
LF	10	0A	USE ENTER! >>>>	SUB	26	1A	CTRL-Z
VT	11	0B	CTRL-K	ESC	27	1B	USE ESCAPE KEY
FF	12	0C	CTRL-L	FS	28	1C	CTRL-SHIFT-\
CR	13	0D	CTRL-M	GS	29	1D	CTRL-SHIFT-]
SO	14	0E	CTRL-N	RS	30	1E	CTRL-SHIFT-^
SI	15	0F	CTRL-O	US	31	1F	CTRL-SHIFT-ESC

The Editor can also READ in machine code programs, Archive files and just about any file you have and would be interested in viewing. What makes The Editor different as compared to COPYing a listing of machine code to _scr or _con, is that when you COPY such a file to the screen, blank boxes are displayed instead of control characters and the code on the screen is scrolling at a rapid rate.

Below is a Screen dump of a portion of the Editor file itself; EDT.BIN. To be honest with you, I can't make 'Heads or Tails' of

this listing! I thought it might be interesting for for assembly language writers to view.

The Editor has a word processing mode backed up with approximately 30 useful commands. There is a printer driver which allows as many control characters as you may need to be added to it. The Editor manual has 22 pages dedicated to printing Editor files, whether text files or document files and some unique examples for printing your files with printer control characters. If you are an Editor user, then read and re-read the manual -it will be your best computing friend.

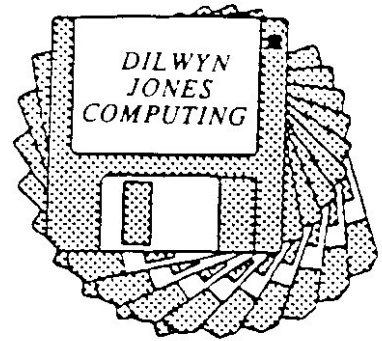
In an upcoming Section of this series, I shall detail the Word Processing commands and explain just how these commands are used. In the next section I will be discussing TEXT editing, Editing commands and setting up ALT files for commands you use on a regular basis.

[illegible]

WINBACK 2.20

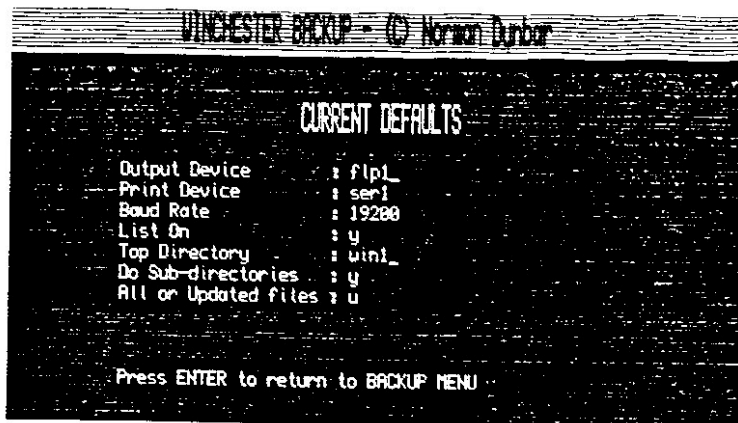
Troy, Michigan, USA - Don Waltermann

This is IQLR's second look at this valuable program. The first time it was reviewed, the hard disk being used was Miracle Systems. In this review, the hard disk is the JFC interface with Omti controller (versions of the JFC interface prior to 3.07 are not known to run with Winback).



I work in computer service and spend much time instructing customers on the importance of backing up their hard disks. I also tell them that all hard disks will crash eventually. Its just a matter of time for each one. I've seen the frustration of customers that have not backed up their drives as they realize how long it will take to rebuild their drive from the original master disks. So, having said all that you can guess what I did. I bought my new hard drive, spent many nights setting up all my software to run from the right subdirectories and then put all kinds of new files out on the drive. Did I have good backups? Of course not. My drive crashed without any warning. The crash was timed perfectly. My copy of Winback showed up the following week.

After the sobering experience with my first personal hard drive failure, I use Winback frequently. It allows you to back up your hard drive in a similar fashion to the way larger systems are backed up. You can do a full backup which will copy off each file on your drive. You can do a partial backup which will only copy off files that have been modified since your last backup. You also have the option of saving off your hard drives entire directory structure. This is a big help if you ever have to recover from a complete disk failure.



Winback is not a pointer environment program but runs under the pointer environment without any problems. Winback is very simple to use. All you need to do is provide some basic information then sit back and feed floppies as Winback asks for them. Winback needs the following information:

Top directory - This should be your root directory (in my case WIN1_) if you want to back up the entire drive. You also can opt to skip subdirectories. I always include subdirectories. You may choose a lower subdirectory to start from. This would be good for backing up an entire software package that you have spread across a number of directories.

Print device - You can choose where to direct a list of files that were backed up, skipped or split. The device can be your printer or a disk file. If you use the printer Winback will grab the channel until the backup finishes. If you direct the listing to a disk file the printer is still available. I would use a different drive for the listing than the one the backup files are going to.

WINBACK 2.20 - (CONT'D)

Output device - You choose what device you will send all the files to (probably flpl_).

```
WINCHESTER BACKUP - © Norman Dunbar

HARD DISC
Directory Level < 2>
Directories Processed < 17>
Current Directory < winl_temp >
Current File Name < winl_temp\intq1258 >
Current File Size < 263,521>
File Last Updated < 1993 Oct 88 23:55:32>
File Last Archived < 1961 Jan 81 08:08:08>

< 115> files out of < 633> have been archived
< 2,916,885> bytes out of < 26,968,416> have been archived

FLOPPY DISC
Disc Number < 1> has < 327,680> bytes free
```

System Clock - For a proper backup scheme to work you need to take advantage of the time stamping facilities of the level 2 directories. Winback forces you to set/verify the clock is correct every time you run it. This is for a good reason. If you don't have a battery backed up clock, the times Winback refers to won't make sense. Winback takes

advantage of the update timestamp and archive timestamp on each file. The update timestamp lets Winback know the last time the file was modified while the archive timestamp lets Winback know the last time the file was backed up. By comparing these two Winback can decide whether to back up the file or not.

Once you start the actual backup you get to watch as Winback sorts through all the files on your drive. It will keep you informed as it decides whether each file needs to be backed up. The only decision you will need to make is when a file is going to be backed up that is larger than the free space on your floppy. You have three options.

```
WINCHESTER BACKUP - © Norman Dunbar

HARD DISC
Directory Level < 2>
Directories Processed < 17>
Current Directory < winl_temp >
Current File Name < winl_temp\intq1228 >
Not enough room on current disc to copy
winl_temp\intq1228
Insert archive disc 2 and press ENTER or
Type 'MISS' to miss out or 'SPLIT' to split file ...

< 116> files out of < 634> have been archived
< 3,179,686> bytes out of < 27,848,988> have been archived

FLOPPY DISC
Disc Number < 1> has < 63,488> bytes free
```

(1) You can insert a fresh disk. This will keep all files intact (unless the file is larger than your floppy). The trade off is that some space will not be used on the floppy. I usually choose this option. It is the cleanest and simplest (which is why it also wastes the most space on disk).

(2) You can type 'MISS'. Winback will skip this file and not back it up. Winback will note in the listing that the file was not backed up.

(3) You can type 'SPLIT'. Winback will put as much of the file on the current disk as possible then ask for the next disk. It will continue with the file on as many disks as it takes to back it up. I use this option for my DOS partition on my hard drive. Since it is 10 MBytes it won't even fit on an ED disk. The disadvantage of this option is that you have to run a utility program to put the split file back together again if you ever need to restore it. This is a fair trade off for the ability to back up very large files.

That is the only decision to make during the backup. I'd recommend saving a copy of your directory structure along with your backup. Winback will reload the files much better if the directories are restored first. Winback provides a utility to do just that for you.

WINBACK 2.20 - (CONT'D)

I have a few small quibbles with the program. The 'ESC' key does not work at many points in the program. As a Minerva user, I've become very spoiled with the ability to escape from a data entry field I didn't want to be in. Some file names will overwrite information on the screen. One of the C68 v3.05 file names overwrites two lines of information each time I backup. It does not affect the backup other than the line Current File Size is overwritten. The screen is never redrawn so the garbage remains on screen until the backup finishes. My wish list would include a utility to make partial restores as simple as choosing files or sub-directories from a menu (similar to QPAC2 but across the entire directory structure).

When making backups, its a good idea to rotate through at least three full backups. If your data is at all important to you I'd strongly urge consideration of at least three sets of disks. Each time take the oldest full backup and use it for the next full backup. This is usually called a rotating backup scheme. That way if an accident happens during the backup, you still have a good set of disks to work from.

Winback 2.20 was reviewed on a Gold Card system using the JFC Hard Disk with Omti controller and a Seagate ST4053 42 MByte MFM hard disk. The backup device was a Teac ED drive. I have found Winback to be an invaluable part of my computer system. I've used the backup disks to restore files that I deleted by accident (still learning QPAC2). I also sleep better at night knowing my files are safe, no matter what disaster may strike. Consider what your data and time is worth. When my drive crashed, I would have paid much more than the cost of Winback to have had a current backup.

Albin Hessler Software

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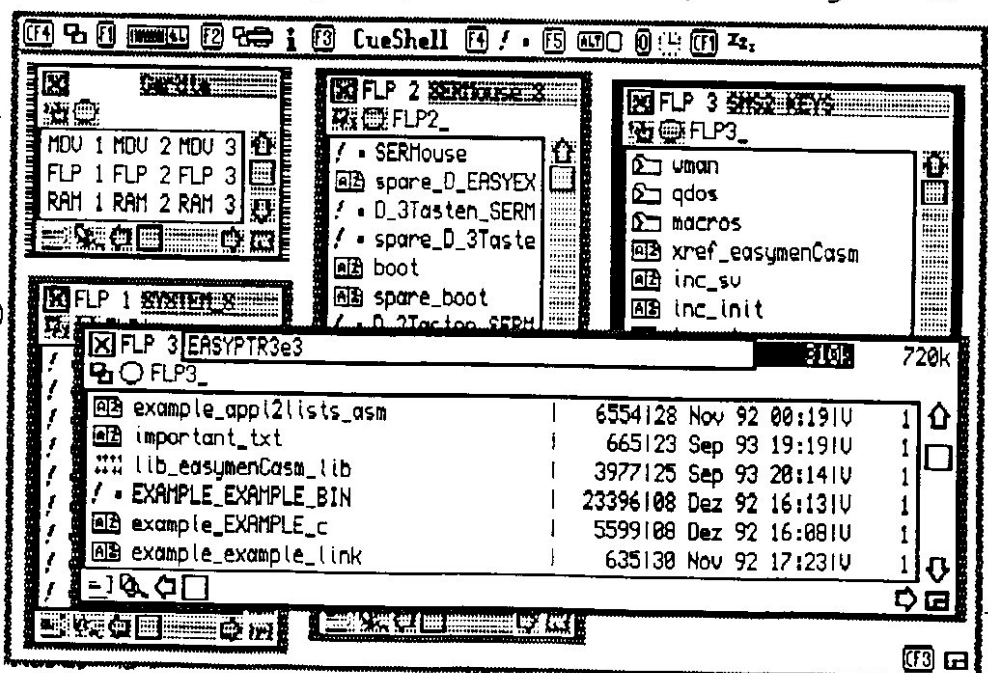
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That's what you've been waiting for!

The ultimate pointer driven desktop program for all QDOS compatible systems.

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QL SOFTWARE

A SELECTION FROM OUR RANGE OF NEARLY 100 PRODUCTS FOR THE QL.
NOT ENOUGH ROOM TO GIVE MUCH INFORMATION HERE HERE, SO PLEASE
ASK FOR OUR CATALOGUE (PHONE OR WRITE FOR A COPY).

QUICK MANDELBROT III £15.00
Fractal graphics, mandelbrot set, Julia set, screen
dump facility, use mode 4 or mode 8 to generate
screens, background calculation option, save and
load screens. Works on 128k QL, disk or microdrive.

SToQL £12.50
Atari ST screen transfer program for use with
Discover. Converts Neochrome or Degas (all three
resolutions in pi1, pi2 or pi3 format). 256k RAM,
disk only.

QUIZ MASTER II £12.50
Similar to quiz game machines found in pubs and
clubs, colourful, 2 sets of questions supplied, you can
make up your own for use with this program. 128k
RAM, disk or microdrive.

OTHER SOFTWARE

QLOAD and QREF £15.00
Fast load and reference utility for basic programs.
S_EDIT £20.00
Easy to use editor for plain text files.
BASIC REPORTER £10.00
Basic programming aid.
OPD INTERCHANGE £15.00
QL-ICL OPD file transfer software.
LOCKSMITHE £14.95
Backup utility for cartridges.
4MATTER £14.95
Backup and transfer utility for disks.
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TOGETHER** £23.50
Note: To use 4Matter, you need Locksmith, but 4Matter available separately for users who already have Locksmith.
MDV TOOLCHEST £14.95
Make your own microdrive toolkits!
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Simple to use file backup, etc utility.
FILEMASTER £12.00
File backup and disk labeller program.
THE COPPER £12.00
Search for text in files on disks or hard disks.
WINBACK 2 £25.00
Hard disk backup utility.
BANTER £25.00
Make banners/posters on dot matrix printers.
VISION MIXER 1 £10.00
Screen display software.
VISION MIXER PLUS £22.50
Enhanced version of Vision Mixer.
PICTUREMASTER £15.00
Screen design program, ideal with Vision Mixer.
PICTUREMASTER PLUS £20.00
Enhanced version.
THE PAINTER £25.00
Pointer driven graphics program.
THE CLIPART £12.00
Wide range of QL clipart on 3 disks.
QRACTAL £20.00
Pointer driven fractal graphics software.
PD2 CLIPART £10.00
2 disks of QL clipart.

SCREEN SNATCHER £10.00
Grab screen displays shown by other programs.
TEXT 'N' GRAPHIX £20.00
Combine screen dumps with Quill text.
TRANS24 £10.00
Graphics converter for 24 pin printers.
SIDEWINDER PLUS £24.95
Screen dumps, banners, etc for dot matrix printers.
BIBLE TEXT DISKS £20.00
Text of King James Bible, plain text or Quill .doc
SPELLBOUND £30.00
Spelling checker, not for pointer environment.
SPELLBOUND SE £50.00
Enhanced version, not for pointer environment.
QUICK POSTERS £10.00
Poster maker for Star printers.
ADDRESS BOOK & LABEL PRINTER £15.00
Store addresses and print address labels in Archive.
GENEALOGIST 2ND EDITION £30.00
Family trees and family history.
BUDGET 128K GENEALOGIST £12.00
Cut down version for unexpanded QL.
FLASHBACK £25.00
Fast, simple to use database.
FLASHBACK SE £40.00
Enhanced version.
DISK INDEXER £12.00
Create a database of the contents of your disks!
DBEASY £15.00
Archive utilities.
DBPROGS £15.00
More Archive utilities.
NETWORK PROVER £4.00
Plugs to network sockets, visual indications.
SOLITAIRE £15.00
The classic solitaire card game.
THE FUGITIVE £9.95
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CRICKET SECRETARY £12.00
Cricket scores etc. made easy with this program.
QUESTION MASTER £10.00
Questions and answers, use for revision and study.
QM QUIZ 1 £5.00
General knowledge.
QM QUIZ 2 £5.00
Classical music.
QM QUIZ 3 £5.00
Questions about the QL and QL scene!
COCKTAILS WAITER £10.00
Drinks recipes, great for parties etc.
FLEET TACTICAL COMMAND £39.95
Classic naval simulation for networked QLs
QTOP £29.95
Pointer utilities etc.
HOME BUDGET £20.00
UK home finance and tax programs.
SCREEN ECONOMISER £10.00
Screen blanker.
SLOWGOLD £5.00
Slow down Gold Card (for old games etc)
TASKMASTER £25.00
Task switcher utility.
DISK LABELLER £10.00
Create smart labels for your floppy disks.
THE CAT £5.00
Multi column lists of files, on screen or printer.
ROB ROY PACK £10.00
Inkwell font printer, plus Cue Well.

3D TERRAIN £12.50
Three-D graphical representation of Abacus data.
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Role playing adventure game on 3 disks.

MAGAZINES

We now have in stock a limited number of back issues of the QL magazines formerly published by CGH Services and we can also offer individual copies of the new QL magazine 'QREVIEW'. Subscription details supplied with orders for any back issues. Individual copies of QReview (published by the editor of the other magazines described below, QReview to be launched end of June) available for £2.00 each (UK), £2.50 (Europe), or £3.50 (USA and rest of world). We can also offer attractive deals on complete sets of back issues of a magazine.

QL TECHNICAL REVIEW
A non-games review magazine, 9 issues available at £2.00 each (UK), £2.50 (Europe), £3.50 (USA and rest of world).

COMPLETE SET £12.00 (UK), £16.00 (Europe), £24.00 (USA etc).

QL ADVENTURER'S FORUM
Games based magazines, 9 issues in total available at £1.75 each (UK), £2.25 (Europe), £3.25 (USA etc).

QL LEISURE REVIEW
Games based magazines, 2 issues published available at £2.00 each (UK), £2.50 (Europe), £3.50 (USA etc)

COMPLETE SET OF BOTH GAMES MAGAZINES (11 ISSUES) £14.00 (UK), £20.00 (Europe), £30.00 (USA etc).

PLEASE NOTE: SMALL ORDERS.

IF TOTAL COST OF ORDER IS LESS THAN £5.00, ADD £1.00 TOWARDS COST OF SMALL ORDERS (BANK CHARGES ETC) OR WE WILL MAKE A LOSS ON SUCH ORDERS!

PAGE DESIGNER 3

This most delayed of all QL software of all time (I think!) is finally about to hit the streets. We were hoping to launch at the Bristol Quanta Workshop, England, 17th October 1993. PD3 is pointer driven, can be controlled by mouse or keyboard, uses Pro Publisher compatible Hires fonts, features text import, full QL screen handling, graphics menu, cut and paste, 9 pin, 24 pin and HP Deskjet printers and so on. Can be used for making posters and other general mixed text and graphics applications. It has been a long hard slog getting this program out, I hope you will feel it was worth the delay!

Page Designer 3.....£40.00
PD2 (send proof of purchase of old PD2).....£25.00

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SERMOUSE £40.00
A complete mouse system for the QL, to work with pointer driven programs such as QPAC2, Line Design, etc. N.B. ADD £2.50 POSTAGE!

SIDEWRITER £15.00
For printing wide spreadsheets or plain text file sideways using a choice of character sizes on a 9 pin or 24 pin Epson compatible dot matrix printer. Sidewriter can be pointer driven, or used without pointer environment on unexpanded QL. On disk or microdrive.

QL GENEALOGIST 3260.00
Brand new pointer driven version of the popular Genealogist program. Ask for information! Can be controlled from the keyboard or using a QIM1 or Serial Mouse. 'Pick' boxes, new 'country' field, improved dates, new 'birth brief' report, improved loading and saving times, improved searching and notes. Requires at least 512k memory, disk only.
Upgrade from version 2: £33.00
Upgrade from version 1: £45.00
Upgrade from 128k version: £50.00

EASYPTR III part 1 £40.50
Simplified pointer environment programming. Part 1 consists of sprite editor, menu editor and superbasic extensions to use menus in your own programs. Requires expanded memory, available on disk only.
EASYPTR III part 2 £20.00
Consists of appendix manager and enhanced toolkit for control of menus etc in your programs.
EASYPTR III part 3 £20.00
Consists of EasySource and C library routines, etc.

QLIBERATOR £50.00
Superb superbasic compiler, compiles virtually all of basic plus most toolkit commands, etc. Produce faster multitasking code from your basic programs. Compile resident extensions, use overlays, etc with the latest V3.36. Can be mouse controlled. Expanded memory required.

BUDGET QLIBERATOR £25.00
Excellent value, compiles virtually all of superbasic. Not mouse controlled. Works on unexpanded QL.

DJTOOLKIT £10.00
Compact toolkit of BASIC extensions, ideal for use with QLiberator. Really useful programming commands, can be distributed with your compiled programs if you wish. At this price, a bargain! Suitable for unexpanded QL.

LINEDESIGN £100.00
Vector drawing package, uses outline fonts and clipart, move and resize text and graphics without loss of quality. Ideal for making posters, etc. Supplied with huge range of fonts and clipart on TEN disks! The more memory your system has, the better! Disk only, can be mouse controlled.

DATA DESIGN 3 £60.00
Superb, fast pointer driven database with free form field structures, with the option of disk based for large files if required, or smaller files can be kept in memory for speed. Expanded memory, disk only.
API for Data Design £20.00
Adds programmability in BASIC, C or m/code.

QPAC2 £39.95
Tony Tebb's superb pointer environment package. Mouse or keyboard controlled, a good introduction to pointer environment. 256k ram min. Disk only.

QPAC1 £19.95
Ideal companion to QPAC2, consists of small accessory programs. Can be used with or without QPAC2. Expanded memory required, disk only.

QTYP2 £29.95
Tony Tebb's spelling checker program. Check spelling as you type OR check existing files retrospectively.

DISA £29.00
Interactive pointer driven machine code disassembler. 256k ram min. Disk only.

MEGATOOLKIT £25.00
EPROM VERSION £40.00
Large toolkit with over 200 BASIC extensions. Many examples supplied, extensive manual.

FLIGHTDECK £15.00
QL flight simulator. Works on unexpanded QL.

DISCOVER £20.00
The painless way to move files from QL to PC and vice versa. As simple as copying files between two disks. 256k ram min., disk only.

MULTI DISCOVER £30.00
Also contains CPM, Unix CPIO, BBC micro, Spectrum and SAM Coupe file transfer capability. 256k min. ram, disk only.

TEXTIDY £15.00
Assists Discover with conversion of text files by stripping out control codes, etc. 256k ram min.

CONVERT-PCX £10.00
Used with Discover, allows transfer of bit mapped PC clipart graphics in PCX format (a common PC file format) to QL screens or Page Designer pages. Create more clipart easily for the QL! 256k ram, disk only.

QL-PC FILESERVER £24.50
Link a PC and a QL via a serial port cable and use this software to enable the two to communicate - the QL can save its files on a PC's disk systems and print to the PC's serial port using normal basic commands like COPY. Works on unexpanded QL.

BANTER £25.00
Simple to use banner maker which uses outline fonts for good quality large text. Prints sideways across up to 4 sheets of paper. Simple to use on screen preview, etc. Suits most Epson compatible printers.

IMAGE PROCESSOR 2 £15.00
Easy to use graphics system, featuring usual graphics facilities, pixel zoom editing, image enhancement, mode conversion etc. 512k, disk only.

SCREEN COMPRESSION £10.00
Reduce the amount of storage required by graphics on disk or microdrive. 256k, disk only.

SCREEN DAZZLER £15.00
Unlike the usual screen savers, which simply turn off the display when the keyboard is not used for a while, this one can activate various graphical displays, more like the screen savers on other computers. Now with extra disk of display routines! Pointer environment compatible.

SCANNED CLIPART 1 £10.00
A 3 disk set full of compressed scanned pictures (decompression program supplied of course) which can be used in most QL programs (DTP, graphics, etc). Assorted collection, containing many pictures you may not find in other collections. A bargain at this price. 128k, disk only.

PRINTERMASTER £20.00
Select printer control codes quickly and simply from a menu to set fonts, page lengths, etc before printing from programs like Quill, etc. 128k, disk! mdy

SQUIDGY ROUND THE WORLD £12.50
An arcade game, ideal for the young at heart! 128k

5-GAMES PACK £12.50
5 'thinking' games in one bargain pack. 128k

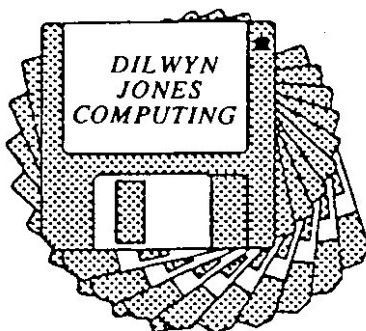
OPEN GOLF £12.50
Golf playing simulation, with choice of 50 courses each of 18 holes. 384k memory required, best used with a colour monitor. Disk only.

GREY WOLF £12.50
Submarine warfare simulation, where you are the commander of a submarine in the Atlantic, an exercise in strategy for entertainment purposes. 384k RAM, 85 column monitor required. Disk only.

SUPPLIES

FLOPPY DISKS £0.40
DSHD DISKS £0.70
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DISK LABELS £2.00
On printer roll £2.50
ADDRESS LABELS £2.00
MDV LABELS £2.00
MOUSE MATS £2.50
Disk box dividers £3.00
in stock once more!

TERMS: Discounts - buy 2 programs, claim 5% off each, buy 3 or more, claim 10% off each program. Offer applies to software only. **POSTAGE** - Software is sent post free to UK addresses. Overseas please add £1.00 per program for postage (maximum £3.00). Floppy disks and serial mouse - add postage of £2.50. Labels/mouse mats - add postage of £0.50 per item if only buying these. **PAYMENT** - in UK currency (pounds sterling) only please. Payment by cheque, Eurocheque, Postal Order, cash (send by registered post), or by credit card (Visa/ Access/ Mastercard/ Eurocard/ Connect). In case of difficulty contact us first to arrange a payment method if none of these is possible for you. Please make cheques, etc payable to DILWYN JONES COMPUTING (not to any other name or abbreviation please, our bank prefers it that way!). If total order value is less than £5.00, add £1.00 to total or we'll make a loss due to high bank charges.



QUIZMASTER II (v2.05)

Albuquerque, New Mexico, USA - Claude A. J. Schleyer

This is my first software review for IQLR and I am pleased to present this offering. I have been a long time Sinclair admirer since first seeing his adverts in Wireless World magazine in the 60's. Then, when his products became available in the USA, I acquired almost all of them. I did not

manage to find a C5 electric vehicle, however. Well, I still use my QLs almost exclusively, except at the office where I have to use a PC. I still find the QL to be more flexible, more useful and more enjoyable than any other. I will continue to use it as long as we can keep it alive. Long live the QL!

QUIZMASTER II is a recently upgraded program originally developed by Impact Entertainments in 1988. The program was upgraded in 1993 by Rich Mellor. It is similar to computerized quiz games found in pubs and clubs throughout the UK, but the questions are not at all limited to UK topics. The two modules, with a total of more than 500 questions, cover a wide range of subjects that are suitable to English speaking people everywhere.

It is a fast, furious and addictive quiz game that can be played by one player against the computer or two players against each other. Each question is printed on the screen letter by letter and as soon as a player thinks he knows the answer to the question, he must quickly press the CTRL button for player 1 or the ALT button for player 2. This action stops further printing of the question and the player who pushed his button first is presented with four choices from which to select the correct answer.

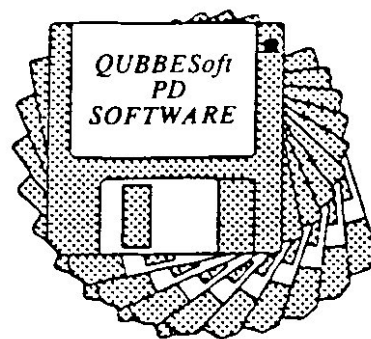
Timing is of the essence. If the entire question is printed to the screen, very little time is allowed for a player to push his button. Therefore, a player must react quickly as soon as the question is printed; there is no time to ponder the question. Then, after a button is pushed, the player has a limited time to select the correct answer. If the player waits too long in either case, the point will be lost or may go to the opponent. If the correct answer is selected, the next question is immediately presented without any waiting time. If the incorrect answer is selected, then at least one gets to wait until a key is pressed to resume the questioning.

The keys used by the program are CTRL and ALT (these determine which player gets to attempt the answer), and the up/down arrows and space bar (these are for making selections). Using this combination of keys requires some coordination, which can be accomplished with some practice. It also takes some cooperation when two players are at it, since both of them must use the same up/down arrow and space keys. I discovered a way around this by connecting a joy stick to CTL1. This way, one player can use the ALT, up/down arrows and space bar, while the other player uses the CTRL key, the joystick up/down action and the 'fire' button. This way the players do not get in each other's way.

I like this game because it reminds me of my first serious programming effort. I learned to program on the ZX81, on which I developed a rather complex program to manage a Bible Quiz Bowl tournament. The program not only presented the questions but also analyzed the scores and matched-up teams for the next round. The excitement was overwhelming! QUIZMASTER II is a lot of fun, the questions are diverse and the instructions are easy to follow. There is even an explanation on how you can add your own question modules to the game. It runs on any ROM, including Minerva, and is Gold Card compatible.

Ron's P/D Library

RAYNE, Braintree, Essex, GREAT BRITAIN - Ron Dunnett



With the great explosion of Public Domain software on the QL scene, we have asked Ron Dunnett of QUBBESoft P/D, the leading commercial supplier of PD software, if he would be willing to share some comments on his library. This is the first of what we hope will be an on going PD column. All the software reviewed here is available from QUBBESoft P/D at: 38 Brunwin Road - Rayne, Braintree, Essex, Great Britain CM7 5BU or telephone/fax at: 0376 347852.

PROGRAM	:	Imagix Diamond Edition V4.30
AUTHOR	:	Emmanuel Verbeek
AVAILABILITY	:	Part of Disk PD1 from QUBBESoft P/D

Imagix is a configurable screen dump. Basically configurable means you can alter certain parameters so that your printout might not necessarily look like the original screen display. This program can handle full 32K QL screens or screens created with Eye_Q and saved in compressed format. For this review, I used the program on the following QL system: Minerva (v1.93), Gold Card (v2.28), BJ10EX printer (connected to SER1 via centronics interface).

Once Imagix has initiated, you are presented with the opportunity to change various parameters or accept those given by the program. The Cursor will be on the first parameter that is "Input File". This is where you enter the name and device of the file you wish to work on e.g. flp1 boot scr. Once you've entered the filename the program goes and looks for that file. If it is successful, the cursor then appears on the next parameter (if it doesn't find the file, you remain in the "Input File" section enabling you to re-enter the filename). The next parameter is the "Output File". In most cases the output file will be SER1, which just happens to be the default. To accept the default just press the ENTER key, if you wish to change the default, delete what is there and type in your choice.

As you continue down the list of parameters, either accepting or changing the default parameters to your own. A WORD OF WARNING, if your screen shot has Black Paper I highly recommend that you use the REVERSED COLOUR rather than BLACKLESS or NORMAL. If by chance you accept the Normal, which is the default, be prepared to change your ribbon or ink cartridge after the Dump. I also recommend the use of Precision rather than Speed printing, the end result is a better quality printout.

When you've entered the last parameter the screen changes to display the various options available in the next stage. The options are controlled by the function keys F1-F5 and the cursor keys. I found it necessary to write these options down, as once you are into the next screen there is no way of recalling them. One of these options is to allow the placement of a temporary grid over the screen. I found this very handy for accurate re-sizing of the Dump area. When your happy with the area you've chosen press ENTER which takes you into the next facility.

The next facility allows you to manipulate the placing of your picture onto the paper in the most appropriate position i.e. Top left, Top Center, Center of the page etc., etc.

Ron's P/D Library (Imagix V4.30) - (CONT'D)

When your satisfied with the positioning press ENTER, proving your printer is switched on, connected to the QL and has paper, you can now sit back and watch your masterpiece being printed. During the printing a visual display of how much has been printed is given by a Bar moving across the screen. You can easily stop the printing process in mid-stream by pressing CTRL 7 ESC together, this pops up another small menu giving you the options of (C)ontinue this Dump, (A)bort this Dump, (R)estart this dump or (Q)uit IMAGIX.

As a Public Domain program I found it to be of good quality and able to do the job it was designed for. I haven't come across any major difficulties in usage and I liked the option of cutting a section out of the picture and printing only that section. I'm not sure if it will print in colour as I didn't have a colour printer to test it on. I presume it will print on any Epson compatible printer, which included most modern printers. I used the Cannon BJ10EX printer set up to emulate an Epson LQ-2500. The only annoying thing associated with the program was being unable to go back to change a parameter. If you made a mistake earlier, you unfortunately have to complete the whole list and start again. Apart from that, I thought it was a good program and one well worth being a part of my collection.

PROGRAM	:	The Cataloguer V 1.12
AUTHOR	:	Emmanuel Verbeek
AVAILABILITY	:	Part of Disk PD1 from QUBBESoft P/D

This program enables you to have detailed directory printouts of both Microdrives or Floppy Disks. I used The Cataloguer on the following QL set-up: Minerva (v1.93), Gold Card (V2.28), ED Disk Drive (FLP1) and a DD Disk Drive (FLP2), Miracle Systems 30mb Hard Drive (WIN1) and a Cannon BJ10EX printer (connected to SER1 via a Centronics Interface>

Once the program has initiated you are presented with a screen that displays the program NAME, VERSION and the AUTHOR'S NAME. If you look at the bottom right hand corner, underneath the Author's name, you'll see a white square. This square is the programs Cursor waiting to be activated. The normal QL Cursor will be flashing in the bottom left hand corner of the screen. To activate the program Cursor simply press CTRL and the letter C at the same time. The White Square should now be flashing and the QL Cursor stationary, the reason behind the change of Cursors is that the program is running as a JOB on the QL.

Once the program Cursor has been activated you press the ENTER key whereupon the screen changes and presents you with a menu. By using the left and right arrow keys you can select the Input Device, Output Device, Print/View, Redraw and Exit. The initial setup is for the Input Device to be 'FLP1' and the Output Device to be 'Screen', these can easily be changed from the menu. If you change the Output Device to 'SER1', before you go to Print/View be sure your printer is switched on and ready to go.

When you're happy with your selection simply highlight the Print/View option of the menu and press the space bar. You'll now be given the opportunity to give a Title to your printout. After typing in your Title press ENTER and a list similar to the following will be printed out.

Ron's P/D Library (The Cataloguer V1.12) - (CONT'D)

DISK PD1		Sat 1993 Nov 13 10:10:00				
NO	NAME	DATE	TIME	SIZE	SECT	SUM
1	---Main Menu Handler---	F06/12/92	23:17:18	0	3	3
2	boot	F06/12/92	23:17:18	1392	3	6
3	boot ser	F06/12/92	23:17:20	32768	66	72
4	--Imagix V4.30--	F06/12/92	23:17:20	0	3	75
5	imagix boot	F06/12/92	23:17:20	1262	3	78
6	imagix_exe	F06/12/92	23:17:22	39258	78	156

This program gives you a lot of information about the files you have on your Disks/Mdvs and if you like to keep a Catalogue this is an ideal program to use. I like the idea of a Sector count as you can see, even an '0' byte file takes up 3 Sectors of Disk space. I doubt if I would get much use out of this program, only because it unfortunately doesn't have a facility for Hard Disks plus the fact I can get nearly the same information using the Pointer Environment and QPAC2. Those of you not using a Hard Disk or the Pointer Environment could find this program very useful indeed.

MIRACLE in NEWPORT II

Newport, Rhode Island, USA - Bob Dyl

IQLR will be sponsoring the second annual North American QL/QDOS get-together on Saturday the 14th of May 1994. The Salvation Army Building on Memorial Boulevard in Newport, Rhode Island will most likely be the center of activities. A large building that can easily hold 200 to 300 people with plenty of space for numerous supplier tables.

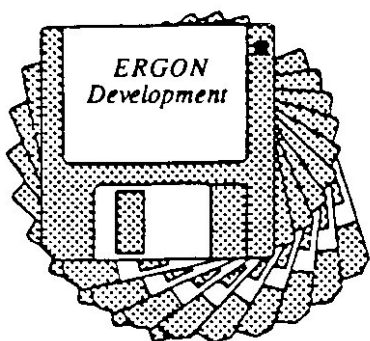
Many of our readers, from both sides of the Atlantic expressed a desire to attend the first show, but due to the short notice, could not rearrange their schedules, this year, you have five months advanced notice. An 'Open Invitation' will be extended to all QL'ers in our next issue. Why not make your plans NOW ????

We have already received commitments from Miracle Systems Ltd, Mechanical Affinity, Update Magazine and QBOX-USA, and Dilwyn Jones of Dilwyn Jones Computing has already applied to the BBC for time off to attend the show.

Expected and probable new products to be demonstrated are: THE GRAPHICS CARD and SCSI Interface from Miracle Systems, THE IDE Interface from QUEBBSOFT, THE EXPANDED QUANTA LIBRARY, and tons of NEW SOFTWARE from all the major suppliers, in addition John Impellizzeri and Don Waltermann will be demonstrating their new bulletin board (QBOX-USA), and will have a 3.5" to 5.25" disk set up to covert PD software at the show, and Bob Gilder of the LIST Group will be demonstrating the CL Systems "REAL TIME DIGITISER".

In our next issue we should have a complete list of the suppliers and demonstrators who will be in attendance, as well as the exact location and time. With so many people responding this early, we expect to have a full day show. Accommodations for this time of year are off season, with over 2,000 rooms within five minutes of the show location.

The fee for supplier tables (6 to 8 feet long) will be \$25.00 US each. For QL'ers wishing to register in advance the fee will be \$5.00 US, at the door registration will be \$7.00 US. For additional information, I can be reached at: (USA) 401 849 3805 phone/fax.



OPEN WORLD V2.12

Oldbury, GREAT BRITAIN - Simon N Goodwin

Open World converts graphics from other computers into the QL display format. It can generate MODE 4, MODE 8, or dithered two-colour screens which use patterns instead of shades of grey.

Open World consists a Turbo task of some 40K, plus Turbo Toolkit and a collection of separate 16 to 18K compiled C routines which perform the actual conversions. The main menu lets you copy these to RAM disk to save time, as the relevant code is loaded before each image conversion.

You must configure two paths, for code and graphics, before the program can work. The task crashes if the 'main' code path is not valid, displaying a 'guru meditation' message with no option but to abandon the task. The example files are in FLP1_CLIP1_, so I had to change the 'work' default from FLP2_ before the program could find them.

Once the path is set you can pick files from a menu which isolates files with the correct extension: IFF, TIF, GIF or CUT, on a QL. If your files are in a PC format you can convert them with various PD utilities, or Multi-Discover from Dave 'C68' Walker, via Dilwyn Jones. The Amiga Qdos emulator has a QL_HANDLER which can transfer AmigaDos .IFF files directly to 720K QL disks in an Amiga drive.

I tested this program on a Gold Card QL with "JM" roms. I have QPAC but do not use it, and this meant the job would not multi-task on my system; EXECUTE_A did not help, and I eventually found I had to RJOB my background copy of XCHANGE to stop it grabbing input each time the task put up its main menu. This could be fixed by giving the task a permanent cursor - it has one at the start.

Open World uses a mixture of QPAC and QRAM style green and red windows and menus, but tends to clear the whole screen before showing each one. File names are limited to 24 characters, which seems a bit mean.

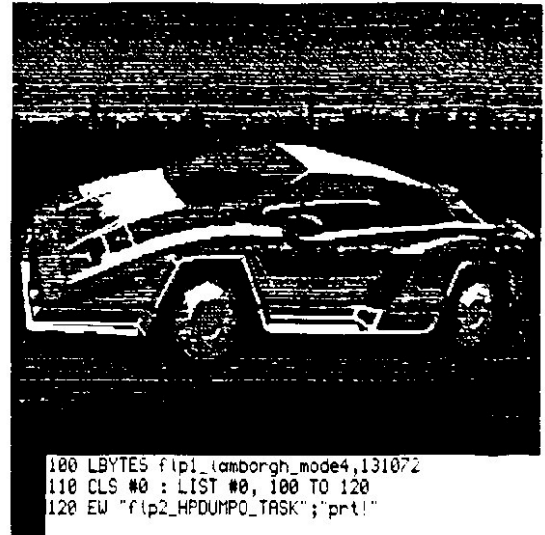
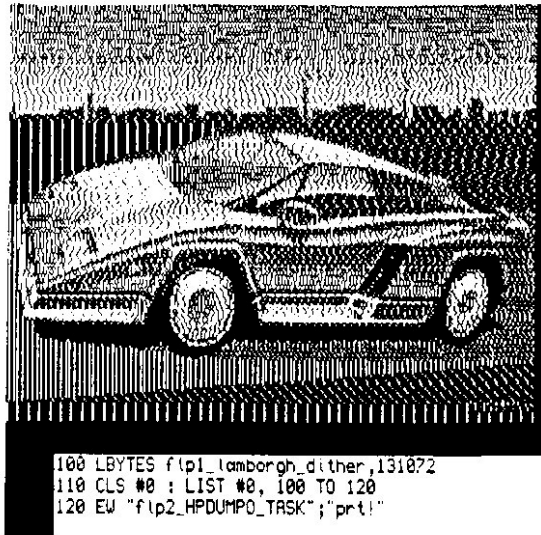
I tested the PC TIF, GIF (Graphic Interchange Format) and Amiga IFF converters, with the three demo files supplied, printing the MODE 4 images with HPDUMP, from QL World's DIY Toolkit series. Open World takes less than a minute to load and convert a full screen, which appears line by line as you watch. GIF conversion needs an extra memory buffer which defaults to 150K in size.

Screens are saved out as 32K screen images which can be re-loaded from any device with LBYTES. The Lamborghini pictures started out as a 320x200 pixel Amiga .IFF file, in 32 colours. The stripey one was converted into 'dithered' black and white pixels rather than MODE 4 or MODE 8 colours. You can choose between these three formats when rendering any image.

The three SuperBASIC lines at the bottom of the screen load the image, list themselves to #0, and let HPDUMP_TASK do the print. The letter 'O' refers to 'original' as the DIY disks now include a version 2 which stretches images to almost a full A4 page.

OPEN WORLD V2.12 - (CONT'D)

Miracle's PRT device buffers the output en route to the printer so you can carry on using the machine almost immediately with no risk of messing up the picture. The HPDUMP task translates the screen to PCL and sends it to PRT in little more than a second, then PRT patiently doles it out to the printer while you get on with something else.



The jagged text in the Italian cartoon strip shows the uneven way the image has been converted to QL pixels. The task usually shows the colours and size of the original before conversion menu, but it did not do so in the case of this .TIF file. It looks as if the original was captured with a hand-scanner, which may have contributed to the pixelation.

In general monochrome images print more clearly than false colour; the MODE 4 picture of Madonna looks rather more recognisable on screen, even despite the red and green bands across her forehead, which print as two shades of grey.



OPEN WORLD V2.12 - (CONT'D)

You can see from the example screens that the main limitation on the performance of Open World is the QL display. MODE 8 pictures look best on a monochrome monitor. RGB TTL colours make it look confusingly like a 'false colour' infra-red image. Still, that may be just what you want.

Once you have got its paths uncrossed Open World does just what is promised, at an acceptable speed. The current version needs QPAC if you want to use it with other tasks loaded, but I expect Ergon will fix this as their other programs do not have this limitation.

The price of 35000 lire for two disks is very reasonable once you get over the psychological barrier of converting enormous numbers of lire into real money. I expect Open World will appeal most to people who use QL DTP programs and have access to black and white images from other machines.

THOUGHTS ON - "Improving The QL's Sound"

St. Cloud, Florida, USA - March R. Renick, Jr.

I would like to submit some thoughts regarding the article in the last issue of IQLR written by: John J. Impellizzeri "Improving The QL's Sound". It would be wise to insure that the amplifier and external speaker device be powered from a line transformer type of power supply. Some small and inexpensive amplifiers are line powered rather than transformer powered. If these were to be used it might be disastrous if the line plug were reversed, accidentally.

The QL's output transistor that drives the speaker normally has a return to the low side of the internal power supply through the speaker coil winding. If you open up this return path using the earphone jack/plug combination and feed the transistor output to the high input impedance of the amplifier, the transistor no longer has a low impedance return path. I would suggest that a small valued resistor be permanently soldered in parallel with the plug that feeds the amplifier input potentiometer/ capacitor combination. This resistor could be in the range of 50 ohms to 100 ohms.

The last point that I think should be considered is the suggested size of a 10 microfarad capacitor being placed across the input to the amplifier should be decreased to a value of not more than 1 microfarad, possibly an even smaller value would be sufficient to shunt out the noise. Experimentation with different values of capacity would be advantageous. Simple calculations reveal that a 10 microfarad capacitor has a capacitive reactance of close to 17 ohms at 1 kilohertz and a value of 160 ohms at 100 hertz. These low values would not only cut the noise, but also cut out the sound you wished to amplify.

The formula for determining the value for capacitive reactance is as follows:

$$X_c = \frac{1}{2(\pi)fC}$$

WHERE: X_c = capacitive reactance in ohms, π is a constant value = 3.14159, f is the frequency in Hertz and C is the value of capacitance in farads.

THOUGHTS ON - Improving the QL's Sound - (CONT'D)

When one uses this formula for the determination of X_c for different frequencies and/or different values of capacity a typical set of values can be generated. i.e.

$$\begin{aligned}X_c &= 1 / 2(\pi)fC = 1 / 2(3.14159) (100 \text{ Hz}) (10 \times 10^{-6} \text{ farads}) \\X_c &= 1 / 6.2832 \times 100 \times 10 \times 10^{-6} \\X_c &= 1 \times 10^3 / 6.2832 = 1000 / 6.2832 = 159.2 \text{ ohms}\end{aligned}$$

frequency	capacity	capacitive reactance
1000Hz	10 micro-farad	15.92 ohms
500Hz	" " "	31.83 "
100Hz	" " "	159.20 "
50Hz	" " "	318.31 "
1000Hz	1 " "	159.15 "
500Hz	" " "	318.31 "
100Hz	" " "	1591.55 "
50Hz	" " "	3183.09 "

FOR SALE !! FOR SALE!!

1 - Acorn color monitor (identical to QL monitor - case is tan rather than black)		\$50.00
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2 - QL's (working but need new membranes).	each	\$10.00
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4 mdv cartridge wallets (empty)		FREE

For shipping cost or additional information contact: Sherm Waterman - 40 Eileen Street, Yarmouth Port, MA 02675, USA or call: 508 362 5322.

For Your Information

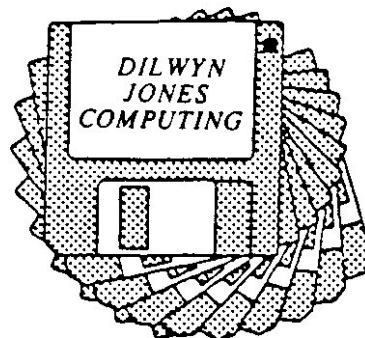
With so many people buying Inkjet and Laser printers that do not have the capacities for storing a complete ream of paper, creates a new problem. What to do with the excess paper?? Many high count cotton based papers require that moisture be kept out, otherwise causing all kinds of printing problems.

A simple answer is to store the excess paper in a Tupperware/ Rubbermaid container. You really don't have to spend a lot of money, any plastic container that has a tight fitting lid will do the trick.

CONVERT-PCX

Albuquerque, New Mexico, USA - Claude A. J. Schleyer

This useful program converts PC clipart for use on the QL. It converts PC graphics from bit mapped "PCX" format to QL " _SCR" and "Page Designer" formats. The vast array of high quality clipart developed for the PC can now be used in your QL graphics and desktop publishing programs.



Before conversion can take place, the PCX files must be loaded onto the QL by means of a file transfer program such as Discover. Once loaded onto the QL, conversion is quick and painless. You end up with either a Page Designer file or a SCR file that can be loaded in Eye-Q, Pro Publisher, Page Designer or other graphics program that uses screen files.

The program is menu driven and configuration is very easy from the first menu that is presented. The second menu then lets you select the desired operation. The following options are provided:

- 1 - Convert large PCX files to Page Designer 1 pages
- 2 - Convert large PCX files to Page Designer 2 pages
- 3 - Convert large PCX files to Page Designer 3 pages
- 4 - Convert large PCX files to multiple QL screens
- 5 - Convert large PCX files to QL screen by shrinking
- 6 - Convert large PCX file, extract single screen
- 7 - View (manual scroll/pan)
- 8 - View (automatic scan)
- 9 - View (shrunk)

Five example PCX files are included so one can try out the conversion program right away. I converted all of these examples and transferred them to Eye Q and Pro Publisher with ease. The converted files can be saved in either normal or compressed format by selecting one of these options during the conversion process. Using compressed format saves storage space but the files must be de-compressed before the pictures can be used.



a sample PCX screen

Convert-PCX requires a memory expansion of at least 256K to operate successfully. While the program itself is only about 50K long, it requires a lot of memory to load the original file, decompress it and turn it into a QL file. The largest picture that can be converted is governed by the amount of free memory available. The program can operate from microdrive but a floppy disk or hard disk system is preferred. No additional toolkits or any other software is required. The program is not pointer driven and cannot use a mouse.

Convert-PCX is very easy to use and is very effective in converting PCX pictures for use on the QL. It is highly recommended if you have access to PCX graphics.

An Italian User's QL System (s)

Berbenno, ITALY - Dr. Eros Forenzi

I've been a QL user since March 1987, when I bought a second hand 128Kb JM QL for 150 US Dollars. I then began improving my computer and at the moment I have four complete QL systems, plus one bare 128K model as an emergency backup and test system.



It might sound may sound like too many for just one person, but as the editor of QITALY Magazine I need to have access to many different machine configurations, for reviewing software purposes. The nearest QL User is 150 Km away from me, so I can't rely on someone else's machine, I have had to live with my "solitary" condition.

The main QL is my own. It is housed in a "Spem System 2" case and has a 24 Mhz Gold Card plus twin Miracle ED drives and (from 24.1.93) a 40 Mbytes 40ms NEC MFM hard disk connected via the Juergen Falkenberg interface. There is an external keyboard (Spem's) and a QIMI interface with an Amiga mouse. The monitor is a black & white Philips 7542 and I have a very good 9 pin printer: a Panasonic KX-P1080B. Oh yes, there are some other spare bits: a switchable Minerva 1.93 / JS rom, a capsled kit, a network prover and a v2.18 Hermes.

NOTE: the hard disk works even when the Gold Card is poked at 24 Mhz. Gold Cards do not have the same behaviour at 24 Mhz. Some simply lock up; some crash after a few minutes; on some others, Superbasic does not work (other jobs are ok); on some others, the disk drives become unreliable; the hard disk may work or not; etc. So my QL + 24 Mhz Gold Card combination must be one of the luckiest around, because everything works, with the exception of the network and the microdrives. Anyway, on my main system the microdrives haven't worked since 1990 (well in advance of Gold Card) and I don't mind that either.

About the network, I think that it's ok by itself even at 24 Mhz, but can communicate only with another 24 Mhz Gold Card. Network timings are possibly changed at 24 Mhz, so it's not a surprise that there are problems communicating with other (slower) QLs.

The second QL has a JS rom and is in my office, 13 Km from home in the Bank where I work from Monday thru Friday. It is housed in a "Spem System 2" case and it also has a Gold Card (16 Mhz only). The two disk drives have the usual 720Kb, but I'll soon swap them for another ED pair (I've did the job yesterday). There is a Spem external keyboard as well as a mouse (this time a PC mouse driven by the excellent SERMouse driver). The monitor is a colour one, model CUB 653, made by Microvitec. It's not the black QL version but the BBC version, and unfortunately it looses a few pixels on both sides. Also, it was second hand and (almost certainly) heavily used, and its phosphors, colours, convergence are about to die. I can live with it for now because I use that QL for a small amount of time every day, but one of these days (pretty soon, in fact) I'll have to throw it in the bin. I can connect a printer (an Olivetti 136 column model) when I need to, but that printer is usually attached to the PC at the other side of the desktop.

The third QL is at home, in my brother's room. It's a JM QL and has a Miracle 512K Expanderam plus a Kempston disk interface with two 5.25" 720K disk drives and one 3.5" 720K. It has a Toolkit II eprom connected to the rom port and a Philips B&W 7542 monitor.

An Italian User's QL System (s) - (CONT'D)

Sometimes I network my main QL with my brothers' and all I can say is that things really work! The cable is nearly 25m long and goes outside the house, over the wall. No matter how cold or hot is outside, network communication does not loose a byte. I have also developed a small but effective utility to activate commands on a QL from a remote system. Think of Archive not being able to OPEN a file located on the remote system (you are trying to access it from a networked QL) because someone has already OPENed it on the local system and forgot to close it after use. Solution one: you move your body to the local QL and type CLOSE..... Solution two: you send a command from the remote QL you are operating on, that closes the file..... nice, but difficult to implement..... maybe, I've succeeded.

The trick is very simple. You cannot send commands directly to a remote QL, but you can create files over the net (TK2 mandatory!). So, execute a task on the local QL that monitor (from time to time) a certain device (say, RAM7_) to see if a certain file has been created. If that file is present then perform an action, in my case I would PICK Archive on top of the pointer environment pile and then send <ESC><ESC><ESC>CLOSE<ENTER> to its command line. From the remote QL all that is necessary is a simple keypress; this keypress will create a file over the net on the local QL, and that file will make the process start; it will do the job in your place. With this kind of trick you could do many many things, not only activate commands. It's the base of a fully fledged electronic mail & commands system. The local QL would open the file and read its contents. Is there in the file the magic word "MAIL" followed by a string of ASCII? Then sound an alarm and put that string on the screen..... Is there the magic word "FORMAT"? Then do the damage to whatever you find in the drives.

I planned to write such a program, but time is little compared to the effort. I prefer to launch the idea, I'm sure someone out there has time and skill to write a complete machine code mail & commands package, mine would be a simple one in compiled Superbasic.

My wife, (formally my girlfriend) has the fourth system: a JS QL with twin 720Kb drives, 896 Kb Trump Card 2 and a green monitor. She also has a second hand QL Printer. That printer works perfectly with my QL with Gold Card, but it often prints rubbish on her QL with Trump Card.... seems very strange to me.....

My fifth QL is a standard 128Kb model with MGI roms. I keep it apart and I power it up only when I need to carry on some test to check compatibility of programs with the Italian MGI rom.

In the future I plan to buy a PC and the QXL card. I'll then have to sell one of my existing systems (possibly one of the less powerful), because I cannot keep everything! I'll use the QXL as the main system because of its great speed, provided it is OK with compatibility and reliability. I'll have access to a faster & bigger hard disk (the PC one) and the whole system will be much more pretty to look at (my actual main QL is almost unmoveable and is a mess of cables & wires & peripherals. It works, and that's what matters, but I'd like to have an all-in-one moveable nice box).

When the graphics card eventually arrives and if it's faster (or as fast as) the QXL, then I'll return to my old main QL, else I'll continue with the PC-QXL. The most probable solution, however, will be the coexistence of QL and PC-QXL on my desktop. I'll use the first for compatibility, the second for speed.

TF SERVICES

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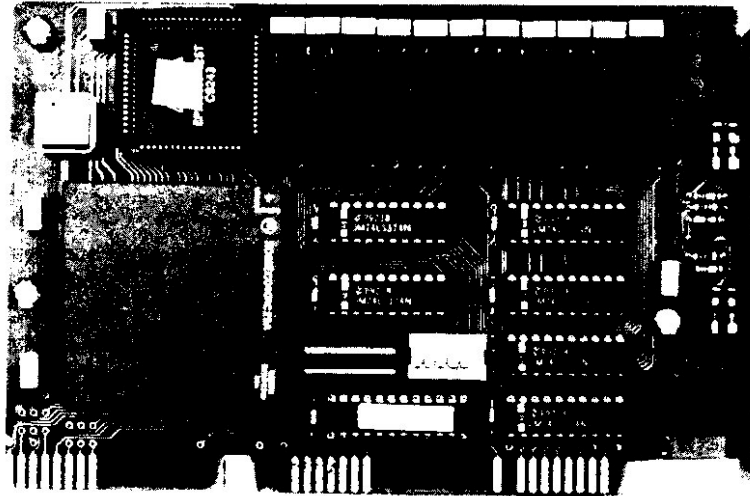
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MIRACLE

THE QXL



The QXL turns the common PC into a QL compatible. The package comprises a half card that plugs into an 8 or 16 bit standard ISA slot and a diskette loaded with a QDOS compatible operating system and a SuperBasic compatible interpreter. After installation simply type QXL and the PC will appear to be a QL allowing QL programs to be run from QL format diskettes.

The card itself has a 32 bit 68EC040 processor running at 20MHz which gives a good turn of speed. This processor has access to its own RAM and so performance is virtually independent of the host PC whether it has an 8088 or a Pentium. In fact the PC is used purely as an I/O system giving QL programs access to the PC's floppy disk, hard disk, keyboard, display, serial and parallel ports. The card itself has QL style network ports to allow connection to a QL network. The minimum PC specification required is an XT with EGA display and a spare standard slot.

Varying RAM sizes from 1M up to 8M can be supplied. The smaller capacities can be upgraded to the larger ones and the cost is simply the price difference. Not all the RAM is available to the user programs; the 1M equates roughly with a TRUMP CARD QL memory size and the 2M with a GOLD CARD QL.

During the lifetime of the QXL we intend to enhance the software to make use of the new hardware facilities of the PC such as SVGA graphics. As has been our policy with the TRUMP CARD and GOLD CARD we intend to provide software upgrades free of charge.

SYSTEMS

QXL prices

1M	£295	(£255)
2M	£325	(£280)
5M	£410	(£355)
8M	£495	(£430)

(prices in brackets for outside EC)



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INTERNATIONAL QL REPORT (IQLR) is a regular magazine that all QL users should read. It has articles for the beginner, the advanced user and every one else in between. Also, the international flavour combined with low advertising rates makes it probably the best place to locate QL related items. IQLR is run by QL enthusiasts whose proud boast is that they have never been late with an issue.

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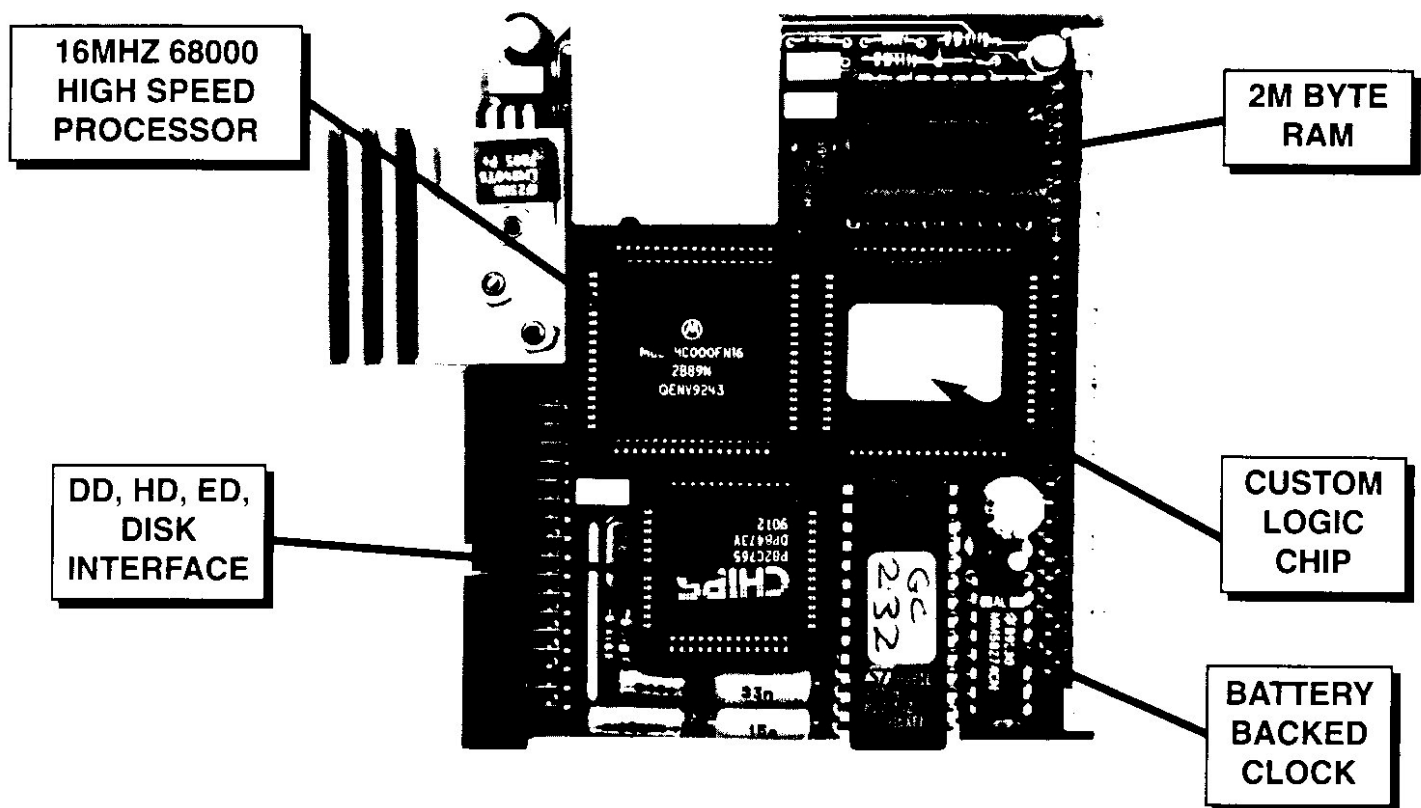
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MIRACLE SYSTEMS



QL GOLD CARD

£225 inc. (£200 outside EC)

This is the expansion that has been revolutionising the QL. It is very easy to fit, it simply plugs into the expansion port at the left hand of the QL, and once fitted it will instantly increase the execution speed of the QL by about 4 times due to the presence of a 16MHz 68000 on board. There is 2M of fast 16 bit RAM of which QDOS sees a contiguous 1920K. The remainder is used for shadowing the QL's ROM and display memory and for the GOLD CARD's own code.

There is a disk interface which can access 3 mechanisms (4 with the DISK ADAPTER) of three different densities, DD (double density, 720K), HD (high density, 1.44M) and ED (extra high density, 3.2M) in any mix. The disk interface connector is the same type that was fitted to the Trump Card so most QL compatible disk drives can be used.

Please note: that DD drives still give a capacity of 720K per diskette.
Our DUAL ED DISK DRIVE allows the GOLD CARD to access DD, HD and ED diskettes.

Another feature is the battery backed clock. When the QL is switched on the contents of the clock are copied into the QL's clock so that the time and date are correct. The firmware in the ROM gives the GOLD CARD all the functionality of the Trump Card like TOOLKIT II and there is a sub-directory system for floppy and RAM disks.

Physically the GOLD CARD is about half the size of the TRUMPCARD and so fits almost all within the QL. Its current consumption is well under allowable maximum so no special power supply is required. The GOLD CARD comes with a 14 day money back guarantee and a 2 year warranty.



The Town Crier

announces

UPCOMING EVENTS

23 January 1994

(SUNDAY)

QL NORTHWEST SHOW:

The Georgian House Hotel
Manchester Road, Blackrod
Bolton (nr. Manchester)
Great Britain

12 February 1994

(SATURDAY)

SCOTTISH WORKSHOP:

Craiglockhart Site
Napier University
Edinburgh
Scotland

19 February 1994

(SATURDAY)

INTERNATIONAL QL MEETING:

Contact: Franz Herrmann
(Germany 02644 19855)

Bielefeld '94
Bielefeld
Germany

14 May 1994

(SATURDAY)

MIRICLE in NEWPORT II:

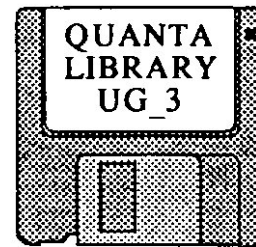
Contact: Bob Dyl
(US 401 849 3805)

Salvation Army Building
51 Memorial Boulevard
Newport, Rhode Island
USA

ART EPP-1 Programmer V 1.01

Troy Michigan, USA - Don Waltermann

This program was written by Martin Head and is available from Quanta on disk UG_3. I had been wanting to burn eproms using my QL for a long time. The obvious choice was the QEP-3 programmer which has received very positive reviews. Since the QEP-3 ties up the expansion slot, it requires a dedicated QL. My computer room just doesn't have space for another QL so I hoped to be able to add the ability to burn eproms to my main machine. When I found this program on the Quanta library it was a perfect fit for my needs.



The ART EPP-1 can program eproms up to 27512 (64K x 8). This is ideal for the QL environment where the two most used eproms are the 27512 for the operating system rom and the 27128 for toolkit roms. The EPP-1 has an RS232 interface which allows its use on a variety of computers as well as with a simple terminal. The interface only runs at 1200 baud. This is an intentional design feature. By keeping the baud rate at 1200, devices which don't handshake properly should still be able to keep up. Unfortunately, I found the original QL without Hermes has problems reading eproms even at 1200 baud. The original QL can use this software to program eproms without problems. My Gold Card system with Hermes has no problems reading eproms. The lesson here is, if you use your serial ports for any input, you will benefit from Hermes. The EPP-1 is supplied with software for use on a standard PC. I originally thought it would be of no use to me, but later found one portion of it very helpful. The PC software has routines to convert between various standard eprom file formats. This is one feature missing from the QL software. The file conversion utility runs well under Conqueror.

A.R.T. EPROM Programmer																INTEL : 27C512																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
6F00	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41	52	FF	F8	22	06	43	55	52	53	4F	52	FF	F8	26	82	41

The program itself is written in SuperBasic. While that may seem a drawback, it isn't. With the programmer only running at 1200 baud, compiling the program probably wouldn't speed things up very much. The program contains routines to read and write eproms as well as blank test them. It also contains its own editor that can be used to modify code loaded into its buffer. It is supplied with a minimal device list of various eproms. The device_list is a simple text file that can be added on to easily.

There are a number of steps required to burn (program) an eprom:

Determine what code will be used to program the eprom.

Convert your code into Intel HEX format. Code saved using the sbytes command has to be processed into a format the EPP-1 can understand. Intel HEX is a standard format used to program eproms. A program called Convert is supplied as part of the programmer package.

ART EPP-1 Programmer V1.01

Erase your target eeprom. An eeprom must be blank (all ones) before it can be programmed. It can be erased by using an eeprom eraser. This is a box with a special UV light that shines through the quartz window in the eeprom. In order to ensure the eeprom is blank, a blank check routine is provided in the software.

Program the eeprom. This can take a while depending on the size of the code file. A 27512 can take 20 minutes to program at 1200 baud.

Verify the data on the eeprom matches your original code file.

This program allows you to customize your system. With it you can:

Combine your original QL system roms and a toolkit rom on to one 27512. In most cases this combines three roms into one eeprom with a resulting reduced current draw and reduced heat output. Articles are available detailing how to wire a 27512 into an original system rom socket. Small, inexpensive printed circuit boards are available to hold your custom 27512.

Create your own rom code from extensions you normally LRESPR at boot time. This can be done using EPROM Manager II from Jochen Merz.

Examine/modify code for other machines. I've used it to burn eeproms for TS2068 (updated disk driver code) and ZX81(file server code) systems.

The documentation supplied is very good. It includes the pin-out for the cable needed between the EPP-1 and ser2. I found my modem cable was wired the same since it uses the same port. The manual also includes a complete chart of all menus in the program. This is very handy to see how to get to various functions.

A.R.T. EPROM Programmer		AMD : 2716
Change Device Type		
<input checked="" type="checkbox"/> AMD	EUROTECHNIQUE	FUJITSU
<input type="checkbox"/> HITACHI	INTEL	MITSUBISHI
<input type="checkbox"/> MOTOROLA	NATIONAL SEMI	NEC
<input type="checkbox"/> OKI	RICOH	ROCKWELL
<input type="checkbox"/> SEEQ	SGS-ATES SEMI CORP.	SGS-THOMSON
<input type="checkbox"/> SIGNETICS	TEXAS INSTRUMENTS	TOSHIBA
<input type="checkbox"/> UMC	ULSI TECHNOLOGY INC	XICOR
Status		
Use Cursor keys to Highlight selection and press ENTER		

One feature I haven't mentioned is the editor. If you are familiar with Digital Precision's Super Media Manager or Ergon Development's Floppy Disk Utilities, this editor format will be familiar. The left hand side of the screen contains the data in hex format while the right hand side shows the file in ASCII format. The editor contains all the functions I need to modify a code file except search on pattern commands. This is all the more impressive considering this is all written in SuperBasic.

I am impressed with the quality of this program. For me, this program alone was worth the cost of Quanta membership. I'd like to communicate with other users of this program. I can be contacted through IQLR or on the International QL echo available on most QL Bulletin Board Systems.



QD The Editor V5.00

Thetford, Norfolk. GREAT BRITAIN - W. Geraint Jones

QD - What is it? In simple terms it is a pointer driven ASCII text file editor. It does not profess to be, nor has it ever claimed to be, a word processor in any way shape or form. So what is there about the program that makes it different from all the other text editors - besides the fact that it is the

only one that has been specifically designed for the extended environment.

QD was, and still is being developed, with the QL SuperBASIC and Assembler programmers in mind. Programmers in other QL languages should not be disheartened by this, as the facilities supplied by QD for these specific languages, can be easily adapted for use with other languages eg FORTRAN, PASCAL, FORTH and PROLOG to name just a few.

QD first appeared as plain QD, as it developed it became QD II, III, IV and is currently available as QD 5. The first version I have of the program is QD II, which I must say was good, which to say the least is somewhat inferior to QD 5. To those of you that have not upgraded - you don't know what your missing. The early versions of the program do not offer the same degree of flexibility in use as the current version ie not all operations were accessible by both key and mouse. The current version offers the user a far greater range of editing functions, in both the general sense and the assembler/SuperBASIC specific sense, it also makes use of some of the other utilities supplied by Jochen Merz via his menu extensions.

So what has it got that other editors lack as far as the programmer is concerned, well there are quite a number of features and the easiest way for me to describe them, is to list them and then briefly discuss each feature in turn.

The main QD window has the following loose menu items, in addition to the standard sleep, resize and move items:-

- | | |
|---------------|--|
| F1 [Help] | A general and or specific help facility that can be tailored to the users individual requirements. |
| F2 [Files] | A pull-down menu of file I/O commands etc. |
| F3 [Commands] | A pull-down menu of text manipulation commands. |
| F4 [Block] | A pull-down menu of block manipulation commands. |
| F5 [Status] | A pull-down menu that displays the current program configuration and allows it to be reconfigured at will. |
| F6 [Word] | A pull-down menu that allows a series of characters to be defined as a 'word' for use with the search/replace functions of the commands menu. This also allows numbers written in one base to be converted to another eg you could replace the hexadecimal string AA with its binary or decimal equivalent throughout a block of text or the whole text. |
| F7 | Mark the start of a block - equivalent to first occurrence of left mouse button. |

QD V5.00 - (CONT'D)

F8	Mark the end of a block - equivalent to the second occurrence of left mouse button.
F9 [Again]	Repeat the last search or replace operation.
F10 [Thing]	Execute the user defined thing operation.
C'F6 [Ins]	Toggle between insert and overwrite mode.
C'F7 [Line/Col]	Toggle display of current line/column numbers on/off.

Now for the descriptions, my aim here is to give you the reader a taste of what this program is capable of and as such the description of the functions will not be as detailed as in the manual. The commands I intend to describe in more detail than that given above are F1 [Help], F2 [Files], F3 [Commands], F4 [Block], F5 [Status] and F10 [Thing].

F1 [Help]

This is a general purpose help utility that the user can configure for his/her own use, an example is supplied using SuperBASIC and full documentation is given. The example given concerns the SuperBASIC command syntax, where the help file contains the correct syntax of all SuperBASIC commands. Let us take for example the SDATE command, there you are writing your SuperBASIC program and suddenly your mind goes blank (happens to me all the time - Bob probably thinks its permanently blank), you know - you can't for the life of you remember the correct syntax of the SDATE command. Well worry no more all you have to do is press F1 and up will pop the QD help system from which you can look up the commands correct syntax. The help system has been designed to be expandable and configurable, by this I mean you can develop your own help files on what ever subject you like using the supplied help creation software.

F2 [Files]

This is the main I/O menu and allows access to the following commands:-

<u>L</u> oad text file	loads a new file into QD.
<u>I</u> nsert text file	insert a file into the current text.
<u>I</u> nsert scrap	insert the contents of the scrap buffer in the text.
<u>F</u> orget current text	deletes the current file from memory.
<u>S</u> ave text file	save the current text to disk etc.
<u>S</u> ave text file and <u>Q</u> uit	save current text to disk etc and quit QD.
<u>S</u> ave with <u>n</u> ew filename	save the current text file under a new name.
<u>P</u> rint	print either the marked block or the whole text.
<u>S</u> ave <u>b</u> lock	save the currently defined block to disk etc.

F3 [Commands]

This is the main commands menu and allows access to the following commands:-

<u>G</u> oto	allows the user to goto the top of the file, the bottom of the file, a preset marker, a specific line, a SuperBASIC function/procedure or an assembler label selected from a program specific list.
<u>M</u> arker	either define or delete one of four markers within the file.

QD V5.00 - (CONT'D)

<u>S</u> earch string	define a string to be searched for.
<u>R</u> eplace string	define a string to be searched for and replace it with another given string.
<u>D</u> elete control codes	deletes any control codes in a file ie characters below ASCII 32.
<u>P</u> ut characters	allows non-printable ASCII characters to be inserted into the text.
<u>L</u> ine numbers	allows the user to either add or delete line numbers.
<u>T</u> yping check	invokes the QTyp spelling checker if it is available.
<u>Q</u> uit QD	exits the program.

F4 [Blocks]

This is as the name implies a block manipulation menu, a block consists of a section of the text that has previously been defined using either the mouse or the F7 and F8 keys. These commands only operate on a block and are only available when a block is currently defined.

<u>F</u> orget	forget the current block.
<u>D</u> elete	delete the current block.
<u>G</u> oto start	moves cursor to start of current block.
<u>C</u> opy	copies the current block to some other position in the text keeping the original.
<u>M</u> ove	moves the current block from its current position to a new position in the text.
<u>O</u> verwrite scrap	overwrites the scrap buffer with the current block.
<u>A</u> dd to scrap	adds the current block to the scrap buffer.
<u>U</u> ppercase	converts the current block to uppercase.
<u>L</u> owercase	converts the current block to lowercase.

At this point it is worth mentioning something about the scrap extension. This thing is a universal buffer that may be overwritten, added to or extracted from by any program designed to use it, it is if you like a pipe mechanism between programs.

F10 [Thing]

I have to admit at this stage that this is one option I have not used to date, I have however seen it in use in two different setups. The first setup was where the thing was defined to be Qliberator and QD was being used to develop a SuperBASIC program. Having finished writing the program all the user had to do was hit the F10 item and the program currently held within QD was automatically compiled.

The same thing can be achieved for the assembler programmer ie the source code, held in QD, could be automatically assembled simply by defining the thing to be QMAC (the QUANTA version of the GST Macro assembler), and hitting F10, the error reports etc are displayed in QD's window.

QD V5.00 - (CONT'D)

Of course the thing item is not limited to just these two functions, but to the users ingenuity. Full instructions on using this item are given in the manual.

Soft Margins_ and Tabs

If your into structured programming then you will find these indispensable. What is structured programming I here someone ask! Not the easiest thing in the world to explain in words, so here are a few examples.

A SuperBASIC procedure

Structured

```
DEfINE TEST(a)
  LOCal i
  IF a > 10 THEN
    i = 100
  ELSE
    i = 10
  END IF
  FOR i = 1 TO a
    PRINT "Loop"!i!"of"!a
  END FOR i
  RETurn
END DEfINE TEST
```

Un-structured

```
DEfINE TEST(a)
LOCal i
i = 10
IF a > 10 THEN i = 100
FOR i = 1 TO a
  PRINT "Loop"!i!"of"!a
END FOR i
RETurn
END DEfINE TEST
```

An assembler subroutine to print the uppercase alphabet

Print

move	#25,d4	Number of loop cycles - 1
moveq	#IO.SBYTE,d0	Print a byte
moveq	#'A',d1	Starting with the letter 'A'

Ploop

trap	#3	Print character
addq	#1,d1	Set next character to be printed
dbra.s	d4,Ploop	Next loop - unless last one
rts		

How then does QD help you in generating structured programs, well quite simply it remembers where you started typing on the last line, and automatically starts you at this position on the next line - until you tell it different. So to create the structured SuperBASIC procedure given above, you simply set the TAB interval in the [Status] to 2 and type the first line, after pressing return to move to the next line you press TAB to move in 2 spaces - this now becomes your default left margin until you TAB out again using SHIFT TAB. You can step in as far as you like, and each and every time you do so the left margin follows you.

The same thing can be achieved in assembler programs or for that matter any other language that allows the source to be structured eg FORTRAN, PASCAL and C. The purpose of the indenting of the code is of course to make it more readable.

The Bad Points of QD

QD V5.00 - (CONT'D)

Well there had to be some, everything I have said so far is pretty positive. The main problem with computer software, and QD is no exception, is the manual. In this case it is a great improvement over some of the ones I have seen - especially concerning the extended environment, but it still suffers, at least to my mind, from being written by the expert for the expert.

I am still surprised that even after ten years QL software writers have not realised that the average user requires a manual that will lead them gently by the hand, with plenty of worked examples and a minimum of jargon through the intricacies of the program, not a highly technical, jargon filled reference source.

Fortunately this message is starting to make its way up to the rarefied atmosphere of the QL commercial programmer and QD's manual certainly proves that the message is getting through at long last. Though there is still room for improvement - even if it does mean doubling the size of the manual.

Conclusion

QD is a very versatile text editor that has been developed by the programmer for the programmer, it is well written, functional, easy to use and quite well documented. The thing facility allows QD to be used as a front end for a whole software development package, thus making it almost indispensable to the programmer. Whether or not you program, if you need to edit text files then this is the way to do it.



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SPECIALS GOOD TILL CURRENT SUPPLY EXHAUSTED

TRUMP CARDS: 896K RAM, Tool Kit 2, disk interface for QL. These are used, but in good condition and are being offered for only \$100 till current supply is sold.

512K MIRACLE EXPANDER RAM CARDS: for those with a disk interface and no extra memory, or an unexpanded QL and would like to increase the available memory in order to use larger programs, then these are excellent, and are available for only \$45.

SINCLAIR QL PRINTERS: in QL black, 9 pin dot matrix printers made to work specially with the QL. Tractor feed, so they are great for labels, and since they are an impact pin printer (as opposed to a laser, deskjet or bubblejet) they can be used with multi-part forms. These are available for only \$60.

SINCLAIR QL MONITORS: we have these in limited supply, with more on the way, so please call or write first to check on availability. These are black TTL RGB monitors bearing the QL logo and designed to work great with the QL. On sale for \$125

SERIAL PRINTER CABLES for the QL: for the low price of \$14 each.

3D PRECISION: a suite of programs which permits the creation and rapid manipulation of three-dimensional objects in any color, or combination of colors on the QL. It even comes with its own 3D Editor, SuperBasic Toolkit and Assembler Toolkit. Objects are of the wire frame type. We normally offer this program for \$40, but on sale for \$25.

EYE-Q: an advanced graphics package for the QL to create sophisticated designs of any size on the QL for saving, reloading in other programs or dumping to a printer (hundreds of printers supported). Normally \$54, on sale for \$40.

HERMES REPLACEMENT FOR THE 8049: for dependable upto 19,200 baud operation, improved sound and independent serial bauds all this and more for only \$43. To install requires opening your computer.

Fed up of DIGITAL PRECISION telling you how very good their software is?

✓ "As you might surmise by this time, I am impressed by QMATHS's abilities. Having noted that DIGITAL PRECISION's advertising tends to be loaded with superlatives (incredible, ultimate, superb come to mind), I had approached this evaluation with some scepticism. That scepticism has vanished." > INTERNATIONAL QL REPORT (IQLR, available from Miracle Systems) May/June 1993 issue, Official Review by M.Laverne commissioned by IQLR (who bought their review copy of the program).

✓ "PERFECTION is an exciting, full-flavoured, general purpose word processor of incredible capacity... PERFECTION has now been outshone by the recently released PERFECTION SPECIAL EDITION... The discoveries began to trip over themselves as PERFECTION SE responded to the keyboard with unexpected speed and intelligence... PERFECTION SE is blindingly fast at most things, and you are never left waiting for it. PERFECTION is everything that Quill never became: easy to use, very flexible, loaded with genuinely useful features, cleanly multi-tasking, capacious and incredibly fast. The SPECIAL EDITION offers 12 cylinder power and luxury to an already impressive package." > SINCLAIR QL WORLD magazine Official Review, April 1993 issue, by THE Mike Lloyd of Keyword Index / New QL User Guide fame.

✓ "I find PROFESSIONAL PUBLISHER an outstandingly good program that really does allow highly professional documents to be produced. For your interest I have included a few samples of work done for school using a combination of PERFECTION, PROFESSIONAL PUBLISHER, QUICKLASER and EYE-Q. You will be pleased to know that the quality has been rated so highly that people do not believe it can really have been done with just a QL... I must stress that I am already highly impressed with, and very satisfied by, the performance of PROFESSIONAL PUBLISHER and all the other DP programs that I use... I seem to learn something new that can be done almost each time I use the program. Very many thanks for helping to keep the QL ahead of the field." > Martin J Neave, Headteacher, Watton County Jnr School, Brandon Rd, Watton, Norfolk IP25 6AL (unsolicited letter dated 18 May 1993 ordering more programs: Mr Neave had paid full price for everything).

✓ "LIGHTNING SPECIAL EDITION accelerates QL operation as nothing else does... more than 10x is achievable and 2x-4x is typical... I could not fault LIGHTNING SPECIAL EDITION on anything. It is a clear winner and a best buy at £49.95." > SINCLAIR QL WORLD magazine Official Review, April 1990 issue, by Ron Massey, who wrote EDITOR (bought full price) was "Superb" in an earlier review.

✓ "PERFECTION is well named" > R.H.Petford, Kingston Hill, Surrey, KT2 7LJ (unsolicited letter received May 25, 1993: another full price purchaser & upgrader).

✓ "When my ideal program finally arrived in the form of PROFESSIONAL PUBLISHER, it surpassed all my expectations... PROFESSIONAL PUBLISHER (is) in a class of its own, and makes it the only QL desktop publishing program for the very serious user... Until Digital Precision released PROFESSIONAL PUBLISHER, my opinion was that the use I could make of desktop publishing was mainly restricted to short documents... PROFESSIONAL PUBLISHER is a very versatile program... The illustrations for this series of articles have all been produced on PROFESSIONAL PUBLISHER... My printer is a BROTHER 9-pin dot matrix printer. It does illustrate the very high quality that can be obtained from PROFESSIONAL PUBLISHER even when using a simple printer." > SINCLAIR QL WORLD magazine Guide to desktop publishing ("A Question of Dots"), January 1992 to December 1992 issues: the reviewer had bought PROFESSIONAL PUBLISHER, PERFECTION SE, FONT ENLARGER, TOOLBOXES, QUICKLASER etc from Digital Precision all at full price.

✓ "I am aware that over the years Digital Precision has given considerable support to the QL scene but seldom, if ever, can there have been such estimable service as I recently encountered with PERFECTION PLUS." > The Hon. W.D.R. Spens, Bridgewater, Somerset, TA5 1HG, QUANTA magazine, March 1992 issue. Mr Spens bought a lot of his software from Digital Precision, all at full price of course.

✓ "The Digital Precision Desktop Publisher was rightly hailed as an extraordinary programming achievement when it was released two years ago. Mike Lloyd casts a professional eye over Digital Precision's latest page-making blockbuster (PROFESSIONAL PUBLISHER) and finds plenty to be pleased about... there is unlikely to be a single program of such magnitude and quality (as PROFESSIONAL PUBLISHER) written for the Sinclair QL." > SINCLAIR QL WORLD Official Review, August 1989 issue, by M.Lloyd, who personally bought all this at full price.

✓ "EDITOR is a liberation. After Quill, it was like jumping from an aquarium into the sea. It has become part of my professional life... Everyone is now writing about the excellence of PERFECTION. I have not tried it, not having any perceived need for it (having EDITOR)" > Suzanne Cronje, QUANTA magazine, May 1992 issue, page 2, Ms Cronje naturally had paid the full price for her copy of EDITOR SE.

✓ "I have found (PERFECTION) to be simply excellent, fast, packed with features and very well thought out. I can find little to say that will convey just how good this program is, except to quote Digital Precision's own advertising: PERFECTION will blow your socks off. PERFECTION is the program that Quill users have been waiting for." > SINCLAIR QL WORLD magazine first Official Review, May 1991 issue.

✓ "Digital Precision (DP) decided to begin work on a replacement for Quill which would be very quick, simple to use and contain lots of excellent features - something upon which DP have built a very strong reputation in the QL market... Overall, the speed-up (of just the first release of PERFECTION - it is much faster now) on even a humble QL with Trump Card is amazing when compared with Quill (or any other word processor). On top of this, the program provides many excellent and well thought out features, each of which is easy to use... (it) is certainly years ahead of the competition on the QL (and even on many PCs)." > R.Mellor, c/o CGH Services, Cwm Gwen Hall, Pencader, Dyfed SA39 9HA; Official Review of the very first version of PERFECTION in QL TECHNICAL REVIEW issue 7: and the reviewer personally bought his own copy of this program, and many others at full price, from Digital Precision. Earlier QLTR reviews pronounced LIGHTNING (just the standard version) superior to the competition and ADVENTURE CREATION TOOL excellent.

✓ "As a recent user of PERFECTION PLUS SE, may I add my thanks and praises to the ones I am sure you have already received... keep up the excellent work." > R Stawson, East Molesey, Surrey KT8 0BP (unsolicited letter from full price purchaser).

✓ "At about 360,000 words, the Mega SPELLCHECKER dictionary does not have much competition, on any computer! (Spellchecking) is about four times as fast as the best figures I have seen with other checkers on QL and PC." > SINCLAIR QL WORLD magazine official review of PERFECTION spellchecker, September 1992 issue, by Bryan Davies of Troubleshooter repete (review copies of all the competing products supplied to SINCLAIR QL WORLD by their respective publishers).

✓ "I have been using PROFESSIONAL PUBLISHER for about eighteen months now... what you can do with it is colossal... I got Digital Precision's QUICKLASER. The results are as good as (Digital Precision) says in its advertisements..." > P.Hamill, Peterborough, Cambs PE8 6RH, QUANTA magazine, Volume 9 issues 4/12. Mr Hamill (full price purchaser) then makes suggestions to users re optimal page sizes.

✓ "Once again I would like to say thank you for your help. I would like to tell the world what nice guys you are but unfortunately I have no contact with the outside world." > J.Bailey, Godshill, Ventnor PO38 3JJ (full price purchaser, 24 May 1993).

✓ "PC CONQUEROR GOLD SPECIAL EDITION is an excellent product, accompanied, as so often with Digital Precision software, by a comprehensive and informative manual. The program does a difficult job, and does it well... Overall, this program is much faster, more compatible and capable..." > SINCLAIR QL WORLD Official Review, March 1993 issue, by M.Knight (bought many DP programs full price).

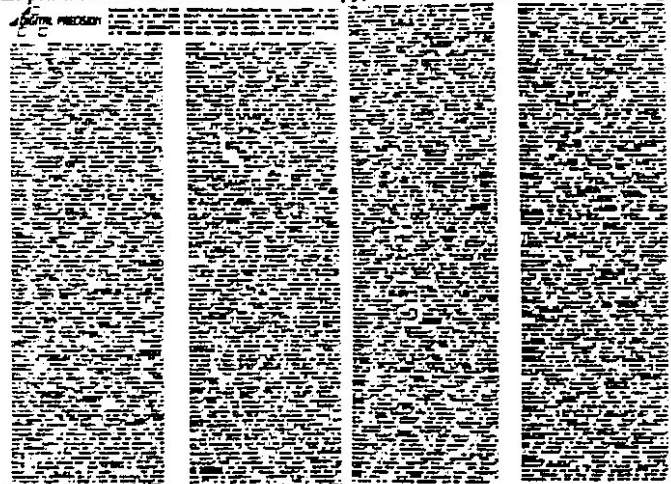
✓ "Many thanks for the update of PERFECTION SPECIAL EDITION. I am suitably impressed. Congratulations on producing the only word processor that I know that offers the best of all worlds as far as formatting is concerned. After Quill, PERFECTION is like a breath of fresh air." > Geoff Wicks, 1097HL Amsterdam, Netherlands (unsolicited letter dated 13 June 1993: all software including LIGHTNING PERFECTION SE, PRO PUBLISHER, CONQUEROR SE etc. purchased at full price).

✓ "All I can say about QMATHS is: WOW!" > Robin Wyke-Holloway, Salisbury SP5 4WG (unsolicited letter received April 1993: Mr Holloway is a full price purchaser).

✓ "Having used a range of desktop publishers on the Atari ST & Amiga, I admit I am very impressed with the superior performance of PROFESSIONAL PUBLISHER. It contains everything required" > SINCLAIR QL WORLD January 1989 issue, article entitled "6 of the Best" which also praised five other new Digital Precision programs.

✓ "May I take this opportunity to say that I have, in the past, found the software you have supplied me with (LIGHTNING etc.) to be of extremely high standard, on a par with that found in industry-standard PC packages. Keep up the good work. Without your quality software, I would be forced to abandon the QL and go to a PC." > G. Reynolds, Crosby, Liverpool L23 0SS (unsolicited letter dated April 2 1993, placing a further order for DP software: all programs old & new were purchased at full price).

✓ This twenty is but a casual selection, drawing only on extracts from letters received by DIGITAL PRECISION in the last few days and from articles (in respected, independent QL journals) that just happened to be to hand. If we really had to, we could locate about 1,100 equally complimentary recent communications (the figure has been carefully arrived at by sampling all our correspondence files): pleasant though such a trawl would be, we have more pressing things to do, like keep refining our programs! In case any scepticism still exists, we refer potential purchasers of our products to pages 18 and 19 of the September 1988 issue of Sinclair QL World, which contained three to four hundred other unsolicited quotations from happy Digital Precision customers (together with the customer's name and whereabouts), all of whom had bought their DP programs. That collection covered only three programs (and only partly - we ran out of space) and predated our best software (LIGHTNING SE, PERFECTION (+SE), PROFESSIONAL PUBLISHER, PC CONQUEROR (+SE) etc). We reproduce those pages below, duly reduced to fit (no magnifying lens supplied, nor eyesight lawsuits solicited). Don't think DP hides behind small print: send an SAE for a full-size copy, or ask for one free while ordering!



✓ DP are suppliers of the best QL software and hardware, including GOLD CARDS and QXLs (at extra-low prices with our software). If you do not receive any QL magazine containing our four or five page advertisements, please contact us for a copy of the ad, which contains brief details on all our programs, prices and special discounts. If you have been out of touch for a while, you may be amazed at how much new software we have now produced! DIGITAL PRECISION LTD, 222 The Avenue, Chingford, London E4 9SE Telephone (24 hour): 081 527 5493 (UK); +44 81 527 5493 (rest of the world)

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 reduction of £31.78 - a saving of nearly two-
 thirds!! And of course you would get both the 25%
 and the 20% discounts on all the other five items
 too! This offer is open for four weeks from
 publication of this issue. *Take advantage of this
 offer, and of the still 'cheap' £ sterling, by acting NOW.*

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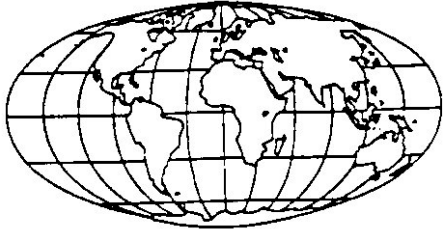
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INTERNATIONAL QL NEWS



This column is designed to bring together new and/or changing developments within the QDOS community. The information contained here has been reported to IQLR by individuals and/or suppliers who desire to keep you informed as to their recent activities.

JOCHEN MERZ SOFTWARE - Duisburg, Germany

Have launched four new software packages for QL/QDOS compatible computers. The first "typeset93-ESC/P2" are dedicated Text87 printer drivers for all Epson printers with ESC/P2 including the new Stylus 800. The second "QMAKE" is a pointer driven Make program for the GST/QUANTA Assembler package.

In the games category "The Lonely Joker Version 2" now has six different games, the three additions are even more complex than the three original games. The new patiences are Spine, Crapaud, and Four-in-a Hand.

The second offering is "BlackKnight" the first pointer driven Chess game. BlackKnight is supplied with an opening library of over 5000 moves and will run on any display resolution. With 10 levels of difficulty, a Chess novice or Master, will spend many an enjoyable hour with their computer and BlackKnight.

QBOX-USA - Utica, Michigan, USA

John Impellizzeri and Don Waltermann are proud to announce QBOX-USA, a bulletin board carrying four QL related 'ECHOMAIL' message areas from European BBS's that exchange mail via Fidonet. A North American QL user can exchange messages with their counterparts in Europe.

The message areas are: International QL (not to be confused with IQLR), Minerva, Quanta and QBox-Sysop. There are local message areas along with file areas that will have public domain programs available for download, uploads are gladly accepted.

The BBS is operating using the QBox software from Jan Bredenbeek on a QL computer. TS Services (Tony Firshman) is our host BBS for the transfer of echomail. QBOX-USA runs 24 hours a day and can be accessed by modems up to and including 2400 baud (don't worry about awakening John or Don as the system answers all calls). Why not give it a try !!! QBOX-USA can be reached at: 810 254 9878.

MECHANICAL AFFINITY - Peru, Indiana, USA

Attention collectors !! Frank Davis of Mechanical Affinity reports that in addition to their supply of "used but not abused" Sinclair vision Monitors, 512K Expanderams, and 896 Trump Cards, they have recently obtained a supply of BLACK Sinclair QL Printers all in good condition. Contact Frank at : 317 473 8031

INTERNATIONAL QL NEWS - (CONT'D)

GRANGE TECHNOLOGY LTD - Upon, Didcot, Oxon, Great Britain

Graham Thwaites of Grange Technology Ltd, has recently announced a New high performance implementation of PROLOG for the QL. Available for QLs with 512K or more memory GT-PROLOG combines excellent execution speed and low memory overheads with an interactive development environment supporting incremental compilation and debugging of PROLOG applications.

GT-PROLOG features a full range of data types (32-bit intergers, 48-bit reals, strings etc.) and provides transparent access to sophisticated optimisation techniques including Tail Recursion Optimisation, First Argument Indexing/Hashing, In-line Arithmetic Evaluation and automatic Garbage Collection of code and data.

The GT-PROLOG package includes software on diskette plus A5-format User Guide and Reference Manual totalling 150+ pages. Single user price is £89.95 inclusive of VAT and postage/packing. For further details contact: Graham Thwaites - Grange Technology Ltd - Rosebank, Stream Road - Upton, Didcot, Oxon, Great Britain OX11 9JG or telephone : 0235 851 818

JONATHAN HUDSON - Ruwi, SULTANATE of OMAN

NEW !! From Jonathan Hudson comes QTPI, a tele-communications program for the QL and other computers running QDOS compatible operating systems with the Pointer Environment. While pushing standard QL hardware to its limits, it can be used on a QL with 640Kb and standard serial ports, a QL with Gold card and Hermes is highly recommended if you want to communicate at speeds greater than 2400bps.

QTPI requires that the PE extensions ptr_gen and wman be loaded, in addition TKII is required (the PE extensions and TKII are not supplied with the program). QTPI is QIMI mouse compatible.

In addition to QTPI, Jonathan has recently upgraded the latest version of QeM to 4.00, both programs can be freely distributed subject to the conditions Jonathan sets forth in the documentation.

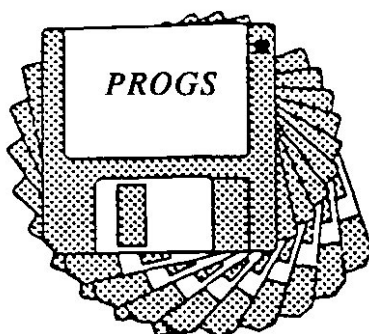
QTPI (v1.00) and QeM (v4.00) can be obtained from the regular PD/Shareware sources, IQLR, or directly from : JONATHAN HUDSON - PO Box 2272, Ruwi 112, Sultanate of Oman (Tel/Fax +968699407)

DILWYN JONES COMPUTING - Bangor, Gwynedd, Great Britain

Dilwyn Jones has recently received the latest update of QPAC2 (version 1.33) from Tony Tebby. The cost of upgrading your current version of QPAC2 is £5 worldwide.

Dilwyn also reports that all backorders for Page Designer 3 should be cleared by the time this issue is released.

(Editor's Note: IQLR will be reviewing Page Designer 3 in an upcoming issue.)



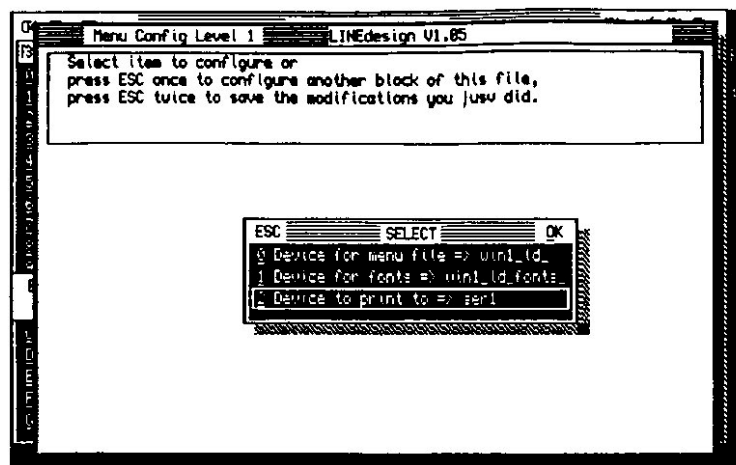
LINEdesign V1.05

Troy Michigan, USA - Don Waltermann

LINEdesign modestly describes itself as "the vector-drawing package". I've found it to be much more than that. LINEdesign is supplied on eleven disks. Ten of the disks contain fonts, borders and clip art.

LINEdesign comes with a 74 page manual. Of that, 28 pages are devoted to the real manual. 14 pages are devoted to a very helpful introduction to the Pointer Environment and the Menu Extensions. The rest of the manual contains printouts of the fonts and clip art supplied. The writing style of the manual is very informative and friendly almost as if the author is talking to you. I did find a few points that were not mentioned. They were probably left out since people used to the Pointer Environment would understand from experience. So, I'll mention them as we go along. One term I'll be using a lot is 'object'. An object means either a line or a collection of lines. To a vector drawing system, everything is made up of a collection of lines. This is its strength. When collecting a group of lines together and treating them as one object, it is easy to change the size of it by changing each individual line by the same relative amount. This also is its weakness. This flexibility means many calculations must be made each time an object is scaled or changed.

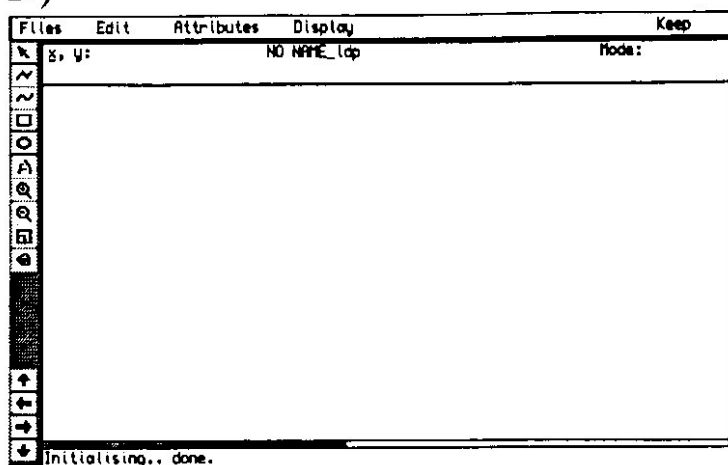
To get started, copy the first LINEdesign floppy to whatever device you will be using. Then run either config or MenuConfig to set your working copy of LINEdesign to run



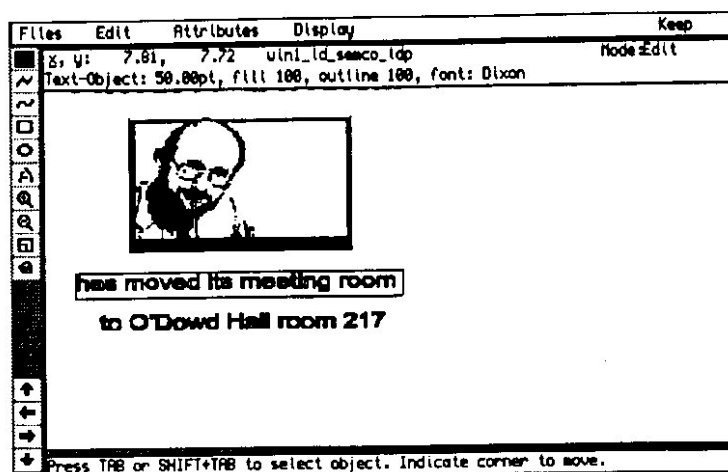
from your devices. The main groups will be LINEdesign itself, the font files, the clip art and your completed work. This requires some consideration, especially if you are running from floppies. You need to have the right floppy in place when LINEdesign looks for a file. For example, if you don't have the proper font available when LINEdesign goes to look for it you'll get the default font instead. For my version I configured a subdirectory for LINEdesign (win1_ld_), a further subdirectory for the font files (win1_ld_fonts_) and other subdirectories for banners and other clip art. Another choice might be to put LINEdesign on flp1_ and the font files on flp2_. It is vital that you configure your working copy of LINEdesign before running it or you'll experience a lot of frustration. My copy came configured to run from win1_. The manual does mention the config program in the introduction to the Pointer Environment but never explains that it is one of the first things you must do to get the program running. I'm sure its obvious to most long time PE users but it had me stymied for awhile. Another obvious requirement for this program is the Pointer Environment. It is supplied on the system disk. The Menu Extensions are supplied as well. You'll will see them in use whenever you are asked to select a file. This program can be used without a mouse but I would strongly recommend adding a mouse if you don't already have one. I use Albin Hessler's Sermouse. It works flawlessly with LINEdesign and is a joy to use with any PE programs.

LINEdesign V1.05 - (CONT'D)

The initial screen presents you with a set of menus across the top and a selection of icons down the left hand side. The icons represent the contents of your "Toolbox". There is a message window at the bottom of the screen. Along the bottom and on the right hand side are two scroll bars indicating what portion of the full page you are looking at.



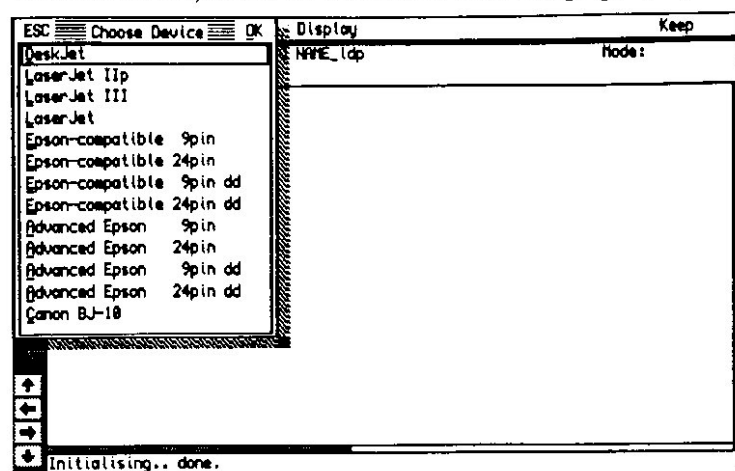
The Toolbox merits some further discussion. I haven't used all of the tools since my artistic talent is virtually nil. However, some of the tools are nearly indispensable. The first icon is the Editing Tool. It is made to look like the PE pointer on purpose. Choose this icon to select an object, move an object or prepare an object for more advanced operations. I also select this icon as a kind of 'home base'. If I'm lost or unsure of how to make something happen, I'll select the editing tool and work from there. The next two icons are the PolyLine Tool and the PolyCurve Tool. To draw a line, click on space for the starting point and click on enter for the end point. To draw a curve click on a start point, two control points and the end point. The next two icons are logical progressions, the Square Tool and the Circle Tool. Select top-left and lower-right to draw a box. To create a rectangle, use the scale option. The Circle Tool is similar select the center and the radius. To create an ellipse, use the scale option. I use the following icons frequently, since they require no artistic ability at all. The Text Tool allows you to enter text. This is a fun tool to play with. You can change typeface, point size, set filled or not and set grayness. This is an easy way to personalize any project you are working on. Currently version 1.05 is limited in how many characters you can add at a time. While this is not much of a problem for posters it is a hindrance to true Desktop Publishing applications. Enter Publishers Pack. This integration of Text87plus4 and LINEdesign creates a true Desktop Publishing application. I hope to come to grips with Publishers Pack in time for the next issue. The Magnifying Tool lets you expand or shrink the area of the page you are looking at. This is a big help depending on what kind of changes you are making to your project. It is impressive to watch the entire page redrawn expanded or reduced. If your page has become filled with many objects the time it takes to redraw the page will increase. Sometimes this redrawing activity is happening on the part of the page not currently on screen. At first you may think nothing is happening but eventually you will realize that the whole page must be redrawn not just the portion you are currently looking at. The Scale Tool allows you to change the size of any object. The Rotate Tool lets you turn any object through 360 degrees. You have the option to



LINEdesign V1.05 - (CONT'D)

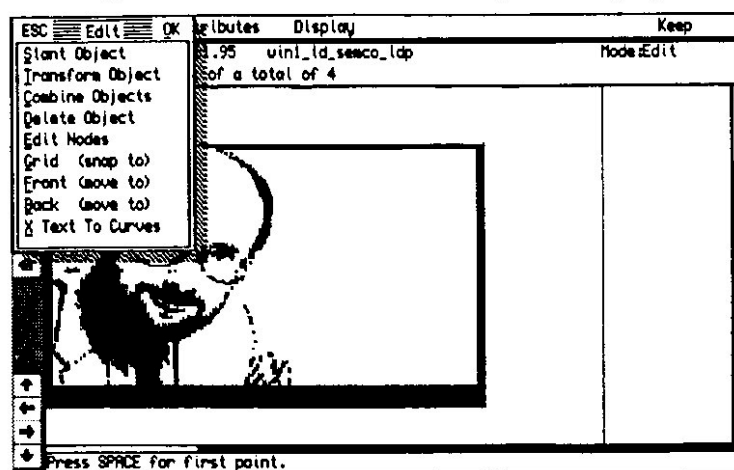
preview the results of using these tools before making them permanent. This lets you try things out without having to start over when you make a mistake.

The menus are organized across the top of the screen. The top left menu is the Files Menu. From here you can save or load a page, merge a page into the current page, save the current page to a new name, print your page, preview what the actual printed page will look like, clear or erase the current page or quit LINEdesign.



The print option impressed me. The program comes ready to print to the following printers: DeskJet, LaserJet IIP, LaserJet III, LaserJet, Epson-compatible 9 or 24 pin, Advanced Epson 9 or 24 pin and Canon BJ-10. LINEdesign is ready to print to any or all of these printers. No loading of drivers, configuring or special setup. Just select a printer from the menu and wait for the finished product. It can take some time to print the finished page. Since

LINEdesign needs a huge amount of memory to convert the vectors to bit image information for the printer, it takes up to 17 passes at the data. You only know this because the status line shows you how far the program is in converting the page. The delay is mostly due to LINEdesign's conversion process. I monitored the data led on my DeskJet and it only flickered a little as each pass finished. If you use a LaserJet you won't have any activity until the entire page has been transmitted. Since printing can take awhile, the preview option is very handy. You can look at a sketch of what your printed page will look like without as long a wait. If you have Text87plus4 this option is very similar to its print preview feature. When you select view page, exercise some patience. I thought the program was hung but each time I moved the mouse, I saw the red no input expected icon. After some experience you will develop a feel for how long it takes to put an image on screen. The more complex the page, the longer it will take to draw.



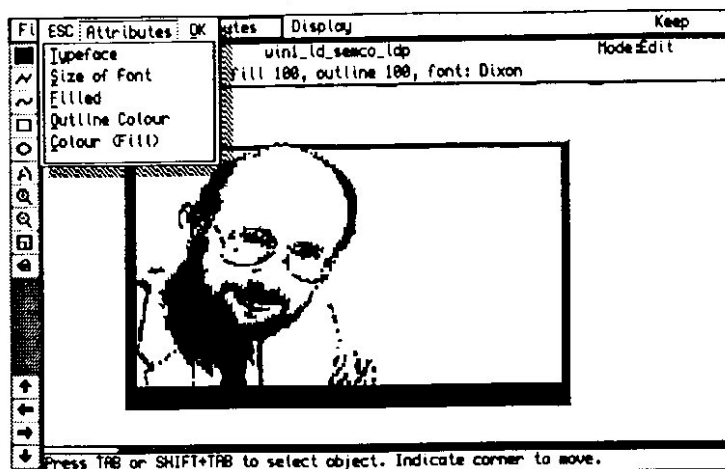
The next menu is the Edit Menu. From here you can modify objects by slanting or transforming (pick any four points and your object will be modified to match). You can use the combine option to group text and graphics into one object. For example, you can take a graphic, add a text balloon, add some text then combine them into one object. You can now move the group as one. Be aware items that are combined may never be uncombined. It is best to save your

work as you go. Edit nodes lets you modify existing objects. This is the option to choose when you want to change some existing text. Grid allows you to snap the current object to the nearest grid coordinates. You can place objects in the general area that you want

LINEdesign V1.05 - (CONT'D)

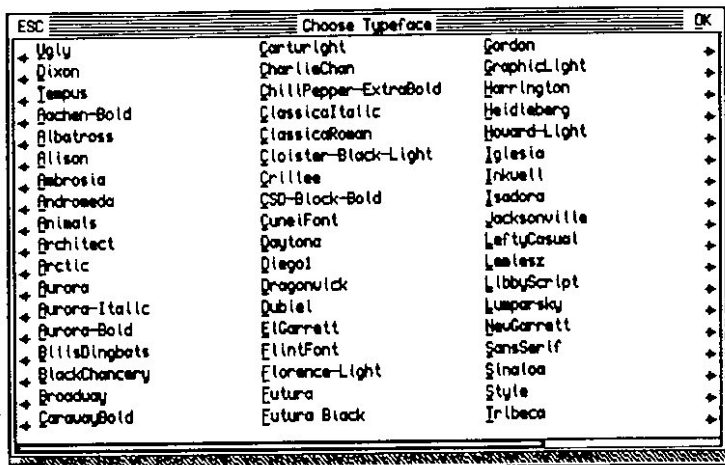
them then choose grid to bring everything in order. Front and Back options let you choose which object sits on top of others where they overlap. This will make a big difference in the final copy. Text to Curves lets you convert text so that you can modify it (you can kern or alter the spacing between characters if you choose).

The next menu is the Attributes Menu. I use this menu to edit text. You can choose from a huge number of typefaces. Then you can choose what point size you want. I could have used some specific advice about minimum and maximum font sizes. The manual does say most typewriters and printers use 12 point size font. Experimentation does give you a good feel for different point sizes. Three other options give you the ability to create outline lettering or gray filled text. The Colour option



refers to the percentage of grayness you want. This is another place where experimentation makes things much clearer. The next menu is the Display Menu. Here you can place a grid under your work. The grid can be any scale you want. You can choose to work in Points, Inches, Millimeters or Centimeters.

Progs seem to recommend points since that is the common unit of Desktop Publishing. I still work in inches so I know how wide my borders are. Selecting the x located just to the right of the Editing Tool turns on a coordinate report that reads out exactly where your pointer is in whatever units you have selected. The last menu off on the far right is the Keep Menu. Its sole function is to give you a safety valve.

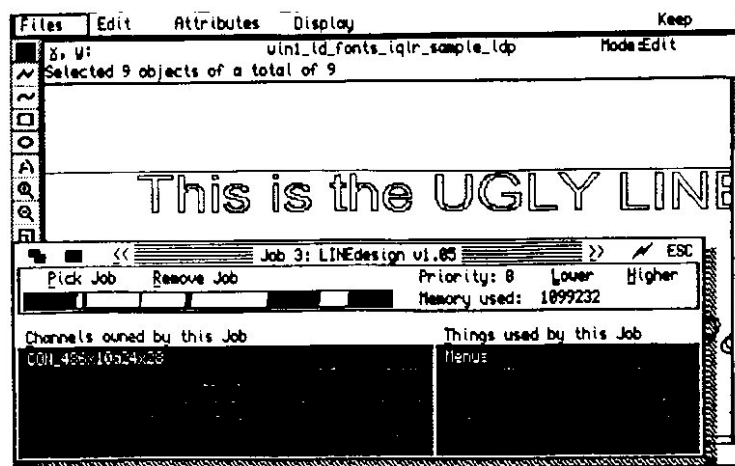


Selecting Keep will save your current work as a separate object. You can continue making any changes you want. If things get out of control, you can revert back to the kept object. If all goes well, you can simply delete the kept object.

Graphics are a big part of LINEdesign. So how do you get something loaded into the program? You could use the tools to draw something. I'm hopeless at drawing so I learned other options. AI2LDP is a conversion program that allows you to load Adobe Illustrator files. I found some Adobe Illustrator files on a local BBS. They converted with no problems. I've found that Adobe Illustrator files are not the most popular format. If you use a PC and CorelDraw you can save graphics in AI format. On BBS's other formats like PCX, GIF, Tiff and BMP are preferred. Fortunately, another conversion program is

LINEdesign V1.05 - (CONT'D)

supplied, BITM2LDP converts sbytes screen saves to ldp format. I used BITM2LDP to convert the Sir Clive RLE into ldp format. The Sir Clive RLE turned into one object made up of 3168 lines and 0 curves. Using some of the other graphics packages for the QL such as Open World and Convert-PCX, you can convert to sbytes screen saves then import into LINEdesign.



What about memory ? I saw "the dreaded out of memory" message a few times with my Gold Card system. Using many typefaces can use up a lot of memory. I found just loading LINEdesign on my system took up 438k. The poster I did with Sir Clive and three lines of text all using Dixon font required 672k. The font sample page with nine different fonts required 1100k. Using multiple fonts gobbles up memory rapidly. Add a number of graphics and you can see the Gold Card memory run

out. To be fair, I usually ran out of memory because I had other programs loaded along with LINEdesign. Starting with a clean machine will give you quite a bit of working room.

Notes: Look for two fonts tucked away on the clip art disks. I found the Wedgie and Ultraline fonts on the last clip art disk. Be careful when copying files to check whether they are ldf (fonts) or ldp (clip art). Read the message window! I would frequently jump from one operation to the next without properly finishing the first. The message window would clearly be saying 'enter to end'. There are at least 57 fonts reproduced in the manual. I've included a sample page of 9 of these fonts. The third font is called animals and the fourth is called Bill's Dingbats. These can be scaled to almost any point size so here are even more graphics at your disposal.

This is the UGLY LINEdesign font

This is the UGLY LINEdesign font

This is the ARCHITECT LINEdesign font

ARCHITECT LINEdesign font

ARCHITECT LINEdesign font

ARCHITECT LINEdesign font

This is the BROADWAY LINEdesign font

THISISTHEFLINTFONTLINEDESIGNFONT

This is The LEFTKASUAL LINEdesign font

Progs are refreshingly candid about the state of LINEdesign. They describe LINEdesign as an attempt to bridge the gap between the software available for the QL and what's available for the PC world. They describe version 1.05 as not very

fast, memory-eating and with few of the special features PC-software has. They go on to explain they chose to first get the vector-drawing method working and will now begin optimising from this point. They also promise a very friendly update policy.

My wish list for improvements: Support for more graphics formats. BMP, PCX, GIF, Tiff are all widely available on bulletin board systems as well as many PC graphics

LINEdesign V1.05 - (CONT'D)

programs. Support for landscape mode. Support other page sizes like US legal and business envelope.

I find that, yes, the program is slow in some places, does require large amounts of memory (at least in QL terms) and may not have all the bells and whistles of some PC programs, BUT I also feel it is a complete package that is extremely useable right now. In its current state, LINEdesign gives you access to a new world of graphics. I eagerly look forward to future versions.

Timex / Sinclair



has moved its meeting room
to O'Dowd Hall room 217

"the finished product"

PROGS of BELGIUM

Veltem, BELGIUM - Joachim and Nathan Van der Auwera

Hello everyone, we are Joachim and Nathan Van der Auwera from Professional and Graphical Software (PROGS). To be exact, we are not yet professional, because we are both still studying a 4-year computer science course in Belgium, our homeland. Nathan is in his last year, Joachim in his third. However we are doing our best to produce software of a professional quality. Although we realise that we don't really achieve this goal, we try to come as close as possible.

Besides computers, we are crazy about sports. Our main mode of transportation is a bike and anyway we like to cycle a lot. Joachim is a triathlete, Nathan plays volleyball, both on National level (with occasional races abroad). We also mountainbike for fun (especially in winter).

The equipment we use are as follows: 1 QL with a Gold Card and ED drives, 1 Atari Mega 2 ST with 105M hard-disk, and a Atari TT with 8M and 17" monitor and QVME. We especially like the TT which is (our latest acquisition) very powerful and on such a monitor, with a screen resolution of 800x600 (we could go up to 1024x900, but then everything is too small), it is just superb. The two Ataris are connected via the Midi-network, because we cannot use the hard-disk of the TT yet. But that won't take too long. We also have a SLM804 printer, and are now busy producing a printer driver for it. This is just perfect, a cheap yet high-quality printer, linked to a smart computer (because of the software). This is like the HP DeskJet, which we also have, but laser-printers have smaller dots, and thus higher quality output.

At our university we have access to all sorts of computers, but especially mainframes (IBM 360) and workstations (Sun/Dec Unix), which are used in a big network, connected to the whole world, but we are not allowed to send e-mail to anybody but other students and university staff. Working on Unix computers just reveals the power of QDOS/SMS2. QDOS/SMS2 is in our opinion very Unix-alike, in that it's modular, multi-tasking, pipes, etc. Much of the principles used in QDOS return in Unix (we first got knowledge of QDOS, and only later of Unix, of course historically Unix was first, and QDOS later), the same is true of the windowing systems. Although we would like to see some more

PROGS of BELGIUM - (CONT'D)

features offered in Unix and QDOS/SMS2 (we have heard they will be in SMS2 soon, like : a screen in the background that is partly visible and can be updated).

When we were still high school students, we released "The PAINTER", in 1988 after two years of coding. This was our first big program and was fully machine-coded, it took about 800k assembler-source for the 80k program. The program was (and still is) pretty good, although a bit old-fashioned now. If it was released in the Pointer Environment, it would be more up to date, and easier to maintain. But no program like "The PAINTER" can be written in the current PE. (We have recently transferred the rights to Dilwyn Jones, because we couldn't maintain the code and concentrate on newer products at the same time.)

At the time we released "The PAINTER", we had almost no knowledge (and money) to do any proper marketing. The official release (according to us) was at a fair in London. But we do believe we were the only ones that knew about it. We did sell 11 copies though, at that time the Sinclair QL market was still pretty alive.

We remember someone asking us if it supported Kerning, which we had never heard of. Strange really that now, five years later with LINEdesign v2, we are still the first to introduce Kerning on the QL.

The next product, ready for the market was DATAdesign. Although we had projects that never got finished, like a Font Editor for The PAINTER, a program to handle animations, a wordprocessor, and LINEdesign, which Joachim had started several times. Qractal was finished and released at about the same time. Both programs were smaller projects, certainly Qractal. By the way, we have sold 20 Qractals up to now.

Joachim pursued perfection in DATAdesign, and Nathan restarted the LINEdesign project. DATAdesign reached v3, and is fully multi-user, disk or memory based, and should be a real competitor for Archive. Should be, because theoretically it offers everything Archive does, but faster and much more. However people don't know about it, or aren't willing to change (don't tell us they don't use databases).

DATAdesign still is fully machine-coded, and still took quite some time to code. For LINEdesign we used a high level language, C. In fact C is very similar to assembly language, and is also very efficient (more efficient than any other high level language). Although a language like ADA offers a whole lot more in fields like big program development, which can be simulated when using C (if you do it yourself), we use C because we have a compiler for it, C68. This compiler does not do everything we would like it to (we are considering some alternatives), but it does the work.

When LINEdesign was first released (in Eindhoven, February 1992) we had immediate reply from the public. This was the first program we wrote that has got this much attention. We do admit it is a good program, and certainly for the QL-market, but we were a bit surprised taking previous experiences into account.

The PAINTER which was a much more up to date, and in fact maybe even a revolutionary program, never got that acknowledgement. But you could say that there were a lot of drawing programs around, like Qdraw, EYE-Q, \ellipsis\ We still believe our user-interface was the easiest and also powerful. There already exists much more and much better vector drawing programs for other computers, but not on the QL. We have the advantage of being the first and only one.

PROGS of BELGIUM - (CONT'D)

To be more correct, LINEdesign v2 approximates the PC-market much better than v1. We do feel this program still needs some work to really be able to compete on the other machines, but we also feel we are very close. We now have the required speed, the user interface has been much improved, and we are using a more prudent way to release. At the moment we have 6 voluntary beta-testers who have received a beta-test version (in fact it still was an alpha version, because it was not even finished then (November 1993).

(alpha versions are in-house versions, beta versions are tested outdoors)

You could say we are very ambitious in our programs, we do want them to be very good, in fact we want them to be perfect. But, as we all know, programs are never really finished. With PROGS, there are some things we like to offer to our customers which we feel are important. For example, we always supply our software on branded disks. The customer pays for our program, so we should at least put it on a decent disk.

On the other hand we always try to be honest. We don't hide the fact that there may be problems. On the contrary, we admit that there may still be bugs in our software. This is a fact, bug-free software does not exist, so why pretend. However, this does NOT mean that we accept this fact. We do try to make our software 100% correct. We do need help from you the end user, by reporting problems, you assist us in getting rid of possible bugs. This will also help other people who may face the same problem.

We tried to make clear in the LINEdesign v1 manual, things which we felt did not work as they should, or which were not yet possible and should be.

We do think that we have had success in writing decent programs. However, it is not always as easy to get the power of a product across to the user. This means that our marketing is not very (not at all) efficient. Luckily enough our dealers are more successful in this area. We therefore would like to thank Dilwyn Jones, Jochen Merz and in America, Mechanical Affinity. Special thanks to Fred Toussi of Software87, who has done a great job on marketing LINEdesign.

As we have written the program and know everything about it, it is not always easy to explain things. This can result in manuals which are insufficient to some users. However, we do think that our recent manuals are much better, and we always take the customers views into account. If things aren't very clear, you can always phone, write or fax for our assistance. We are willing to help.

CORRECTION !

Newport, Rhode Island, USA - Bob Dyl

In the "FOOD for THOUGHT" article in our last issue, it might have been implied that Stuart Honeyball of Miracle Systems Ltd. said that you could run ED Disk Drives on a PC with a special interface, the implication being that ED drives would thus run with the QXL.

The response printed was part of a general conversation between Stuart and myself and did not relate to the QXL but rather, whether ED drives could be used with a PC. "ED DRIVES ARE NOT COMPATIBLE WITH THE QXL CARD" under any present configuration. We are sorry for any misunderstanding that may have occurred.

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New Hardware in Pipeline

Currently working on 2 new products for the QL as follows:-

QUBIDE: IDE Hard Disk Interface. Will allow connection of an IDE Hard Disk upto 120mb to the QL. Software built in. Plugs into QL's ROM slot.

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"FOOD for THOUGHT"

This is your chance to ask the tough questions many QL'ers have been pondering. Or maybe you can respond to a question and help us all. Whatever the case this is your column. It depends on your input. This column is intended to be a forum where legitimate questions and responses can be aired for the benefit of all.



R: In response to the question about fax/modem software for the QL published in our last issue, the following communication from "The International QL Echo" seemed to be an ideal unsolicited reply. This communication was down loaded in its entirety from QBOX-USA.

#84 Tue Nov 1993, 15:53:28
From: Graham Goodwin
To: All
Subj: Fax software

Jonathan Hudson is now the proud owner of a ZyXEL U1496 E-plus fax/modem:-)
The following is another extract from him and are his current development plans:-

- "1. Fix/enhance QTPI to sort out all known bugs, and add review buffer, by 1st December 1993.
2. Document and release v2.x XPR sources (target date 31st December 1993, this has slipped a bit).
3. Write a QDOS (and Amiga) Fax package. This will support CCITT T.30 (G3) fax using EIA PN 2388 Class 2 command set. This will not be ZyXEL specific, but should work on any Class 2 compatible fax modem. Be aware that Class 2 spec is still in draft and some allegedly Class 2 compatible modems may not be compatible with my implementation.

I intend to concentrate on the comms side, there is already the asc2G3 program to convert text files to G3 format. On the Amiga I will use ghostscript to convert PostScript files to G3 format> Do any of the new QDOS DTP type programs give PostScript output? Perhaps Text87 or LineDesign would like to add PS output?

The output side is more difficult. I believe Bob (Weeks) has access to ftp. Perhaps he could hunt for a fax to TIFF program (fax2tiff by Stan Lettler). You could then use Ergon's Open World program to view the TIFF file. I will probably write a G3 to printer program (HP Laser/DeskJet and Epson compatible printers) for hardcopy. This WILL happen, it is just going to take some time. "

<end of extract>

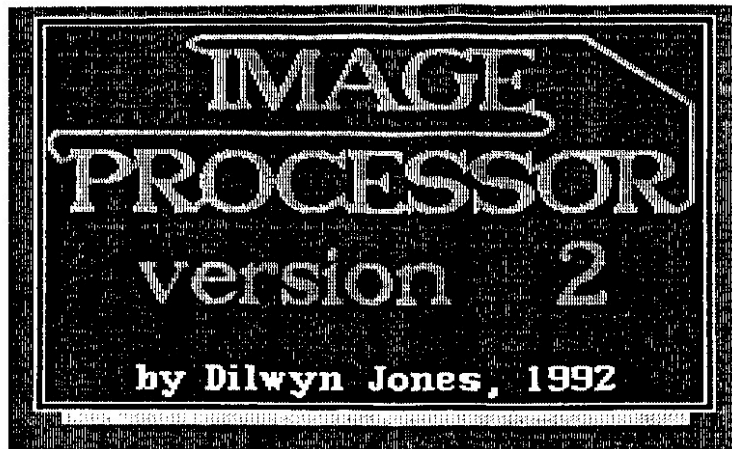
I thought that it was worth letting others know what JH was up to as some collective input on the fax output side might be useful.

--QBoss v1.01b
*Origin: FurST BBS UK (2:255/26.2
--QeM Log closed (00:00:28) Fri Nov 26 20:37:25 1993

Creating Custom 3.5" Disk Labels

Shelby Township, Michigan, USA - John J. Impellizzeri

Have you ever looked at the customized label on a disk of commercial software that you just purchased and wish you could recreate it on the working copy of the disk? I have been using the following methods and programs to create customized labels for my disks rather than simply handwriting the title on a generic stick on label.



Since some software starts up with an opening screen (usually designed to be eye-catching) this makes a good basis for a label. There is usually the title and perhaps a logo and a version number. You need to capture this screen and save it to a file that can be loaded into another program. If the program is in SuperBASIC, a break followed by an [SBYTES <filename>, 131072, 32768] will work or you could temporarily patch the program with the

SBYTES command to save the screen before it starts. If the program is executable you will need to use another method of capturing the screen. There are a number of utilities around that can do this. Since I use the pointer environment, I use a screen saver program that I found on a BBS that can be put on a hotkey so it pops up when I want and it lets me specify the filename. It then saves the current screen. This utility is available on a number of QL BBS's (including QBox-USA) along with CompuServe and is called 'saver.lzh'. You will also need the program to unpack or unarchive this program. This should be available from the same place as you find saver.

Once you have the screen saved in a file, you can then load it into any graphics type program for the QL. This will allow you to edit the screen, maybe remove a part of it or



add something to it. I use Image Processor 2 for this, although there are many other graphics programs that will work just as well. A graphics program will also allow you to design your own label if the software doesn't provide a screen shot that you like. You could import clip art to provide graphics in addition to or instead of text. Once you have the screen looking the way you want, resave it to a file.

I then use a program called Sidewinder that will do a proportional screen dump to just about any size you specify. It also handles colors on the screen pretty well although if there are a lot of stippled colors, you may want to recolor in the graphics program first. Sidewinder is suitable for 9 and 24 pin dot matrix printers.

Creating Custom 3.5" Disk Labels - (CONT'D)

I have an older version but the latest one is supposed to be able to print to color printers also. I load in the screen file, tell Sidewinder the dimensions of the label and it does the rest. I use labels designed for use in a dot matrix printer and are 2.75 inches by 2 inches. Sometimes these are hard to find. If you can't find them locally try calling the Computer Label Company at 1-800-332-4223.

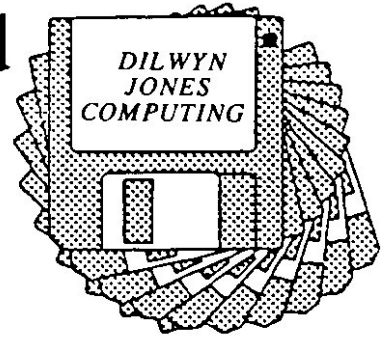
The two samples shown above are first, the title screen to Image Processor itself (it makes a nice disk label too). The second one is on the disk I use to boot my QL system. I captured the Sinclair QL logo from a demonstration program for the QL and added the text below it with Image Processor.

(Editor's Note: The two software programs mentioned in this article "SIDEWINDER and IMAGE PROCESSOR" can be obtained from their publisher Dilwyn Jones Computing. Please note DJC's adverts elsewhere in this issue.)

Squidgy Round the World

Cranston, Rhode Island, USA - A. Parker Lewis III

Squidgy Round the World Version 6.5 is a colourful QL arcade game with up to 50 locations written by Michael Crowe. As a character, Squidgy is introduced as a friendly being pursued by certain characters who would like to perform experiments on him. Why would these people want to do this to this poor little creature? Well, it seems that Squidgy came from a Gravel Pit in the Cotswold Lakes and is thought by these nefarious people to be a relative of the Loch Ness Monster or the Yeti; we never do find out if this is true. The player's job is to keep Squidgy out of the hands of these nasty people as he explores the world. This is the premise of this game and why we are going from location to location. At first the idea of 50 different locations seems rather daunting, but the world is a rather large place.



The instructions for the game are straightforward and very good. The game loaded up with no problems at all. I have disk drives, a Gold Card and I am now using a Minerva ROM. The only change I have had to make is to add the "Slug 10" command to the boot file to make the game slow enough to play. This speed was arrived at through experimentation.

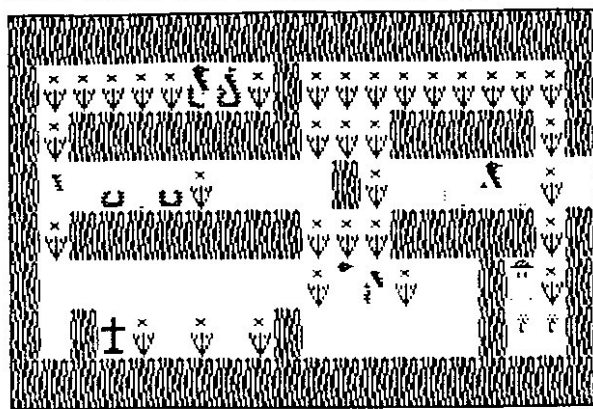
When you first start the game you are presented with a list of high scores and four icons to select from: one, to play the game; two, to get instructions; three, to select movement keys (if you don't use a joystick); four, to quit the game. When you start on the first level, you suddenly see that you have 50 lives, this seems great. Then as you play the game you suddenly realize that all these 50 lives are necessary and as a matter of fact you would like to have 50 more. In my first time playing the game I only got to level five or six when I had used up my 50 lives. After a few tries, I did get better.

Scoring is accomplished by collecting the items in each level while avoiding a different nemesis for each level. Collecting various bonus points and objects in conjunction with beating the clock on various levels helps boost your score. The high scores are automatically recorded on disk and are shown on the opening screen.

As I usually do when reviewing games, I have had several young people try this game and

Squidgy Round the World - (CONT'D)

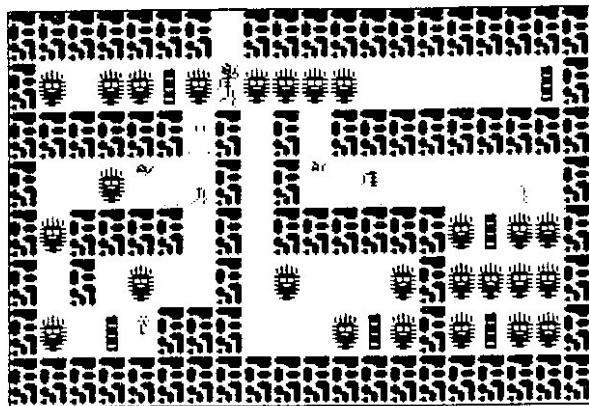
have taken into consideration their reactions and comments in writing this review. The



1. The Poppy Field

Bonus 0 Lives 50 Score 0000000

of the other young people felt there ought to be better instructions on how to get around obstacles.



6. Tutenkamen's Tomb

Bonus 0 Lives 29 Score 0023910

to leave them out. On the whole I find this a very challenging and interesting game worth purchasing.

P/D SOFTWARE

Recently two pieces of Public Domain Software have been sent to IQLR for the purpose of making them available to our readers. The first program is titled "MERINO TIL" (sent to us by Salvadore Merino of Spain) which is intended as a Multimedia Database Language.

The second is a utility titled "SET_PRINTER" (sent to us by Len Johnston of Northern Ireland) the essence of the utility is to set a printer from the keyboard via a menu system. The codes are presently set for the Panasonic KXP 1124 but can be easily changed for any printer (by you).

As is the norm, if your interested in either or both of the above, send formatted 3.5" disks plus return post and packing to IQLR.

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Open World: (V2.1) Graphic conversion utilities. Load into the QL GIF files (present in enormous quantity in all of the BBS), TIF (scanners), IFF (Amiga) or CUT images of any dimension. Convert them into 4, 8 colours (grey levels) or monochrome QL images (with a powerful dithering algorithm - great for DTP applications). **Open World costs 35.000 ITL** and is supplied on two disks with some beautiful images, a QL to PC screen converter (file saved as GIF) and a program to read QL disks on MS-DOS v5, SUN, VAX, UNIX...

MusicManager: (V1.2) Simple program to create and play music on the QL. Psion style operation. **It costs only 20.000 ITL with 8 pages manual. "If you want to produce something of a semblance of music on the QL, then this is a useful package" QLWorld 6/91**

Please add 5.000 ITL for **airmail postage (Europe) & packaging** (add 3000 ITL per program ordered for airmail p&p outside Europe). Acceptable forms of payment are: Eurocheque in ITL; Postal order in ITL (send a copy of the receipt); Foreign currency cheques: use current conversion rates (ask your bank - 1000 ITL are roughly 0.62 US\$, 0.425£, 1.05 DM). Cheque payable to D.Santachiara. Direct bank transfer to: Banca Popolare Dell'Emilia SWIFT BPMOIT22 Sede Reggio E. CC 6533/73 D.Santachiara. **To receive our disk with PD or demo version of our programs send 6 IRCs. This disk is really worth having:** It contains over 1.5Mb of data in compressed form: the new August '93 release contains PD versions of DEAssembler +3, QLibraryManager, F-Disk-Utilities, Open World, MasterBasic, ZM/hT and ZM/128! All of our programs (except MusicManager) need 512Kb expansion and are based on a QPac 2-style menu system.

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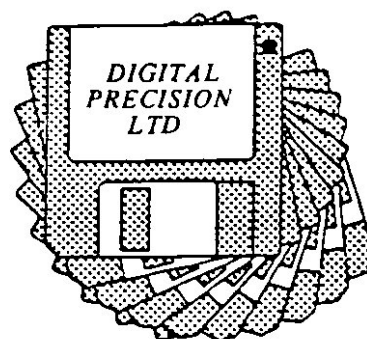
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QMATHS 2 - A Review

OAK Ridge, Tennessee, USA - Mel LaVerne

QMATHS 2 is the second part of the "QMATHS MATHEMATICAL SYSTEM", the first part of which was reviewed in IQLR 3-1 and 3-2.



The manual consists of 30 pages, slim by DP standards, with an even slimmer 22 pages if we disregard cover pages and the Overview. The manual is divided into the following sections:

MANDELSPEED, a program for computing and displaying Mandelbrot and Julia sets;
TERRAIN, a 3D imaging program;

QLVAL etc, SuperBasic extensions allowing use of symbolic expressions in programs, together with some applications;

ACALC, a SuperBasic extension facilitating use of high precision arithmetic routines from QMaths1;

ABACUS COMPENDIUM, archived mathematics and statistics spreadsheet programs;
ARC, a PD compression, archiving, and decompression routine.

After the initial boot, the main QMaths2 menu appears, giving access to all portions of the system. I find an odd thing occurring if I start up with the system disk in drive 1; after bootup, the menu appears 11 times in quick succession ! Is it mere coincidence that there are exactly eleven entries in the main menu ? However, if a start is made with no disk inserted initially and followed with an MRUN FLP1_BOOT or LRUN FLP1_BOOT, the menu appears only once.

MANDELSPEED - A. Toone

Entering an "M" at the main menu activates the Mandelbrot program. An extensive menu screen is presented, allowing selection of 31 options. Pressing a letter moves the cursor to the next occurrence of an option that starts with that letter. The up and down arrow keys may also be used. The option is then selected with ENTER.

Selecting "Type" allows picking three varieties of Mandelbrot plot, Normal, B.D.M. (Binary Decomposition Method), or Twisted, as well as the Julia Set.

If a Julia Set or Twisted Mandelbrot was selected, pressing "T" once more will select the "Target Option" to set the point in the complex plane at which the figure will be computed. The alternative is to select "X" and then "Y", entering the components of the point.

Limits of the area to be investigated in the complex plane are set by pressing "R" or "I" for the real or imaginary component, respectively, and then entering the maximum and minimum values desired.

A point is declared to be in the Mandelbrot Set if its iterated distance from the origin never exceeds 2. Practically, since "never" would require an infinite number of iterations (and time !), we are forced to accept some finite limit. The result, of course, is to accept,

QMATHS II - (CONT'D)

as members, some points that are not actually in the set. The error is small if the "Iterations" parameter is sufficiently large.

This parameter also controls the fineness of detail in the figures. The program sets an upper limit of 250. I feel that for anything other than very preliminary searches for interesting areas, the maximum iterations should be used.

When an "interesting" section of the figure is found, using the Enlarge option allows an areal blow-up of as much as 717.

Mandelbrot calculations being inherently ravenous number-crunchers, any tricks that can be used to lighten the load are much sought after. Mandel_Speed, for example, employs a default two-pass calculation. Pass 1 uses 2x2 pixel blocks, cutting computations by a factor of 4. Then, in pass 2, only those squares having neighbors with different colors need to be recalculated. The result is to bypass large single color areas in the second pass, with consequent reduction in computing time.

One may also select a "Coarse" option for rough but speedy surveys or a "Slow" (well named) option for better detail. Actually, I find little incentive to use the "Slow" option; the two-pass seems to be faster in general and provides the same detail in pass 2.

It is difficult to put a figure on running time, since it depends so much on the area being viewed. If the area has large segments lying within the Set, the coarse, pass 1, calculations will take most of the time, with the pass 2 calculations essentially being skipped over. However, if those areas within the Set are relatively few and small, the coarse phase will require less time and the refinement phase, more.

I found times ranging from about 90 to 700 seconds for 250 iterations. The smaller figure was for the default Mandelbrot Set (real: -2 to 1; imaginary: -1.5 to 1.5). The larger figure was for the "valley" lying between the circular and cardioidal shapes (real: -.7506 to -.7498; imaginary: .0124 to .0132). No difference was found between the Normal and BDM Sets. Nor did Lightning GCSE seem to affect times.

The full-screen default range for the Mandelbrot Set is 3. I have succeeded in producing pictures with a range of .0000040, a linear magnification of 750,000. To put it in perspective, this is like examining, in detail, one square foot of an area that is 142+ miles on a side!

Overall, I would rate Mandelspeed at the top of those Mandelbrot programs I've so far used; it's easy to use, has a good appearance (considering display limitations), and is reasonably fast.

3D TERRAIN - M. JAMES

There are two entries from the main menu for this program: "Terrain" and "Terrain Info". (The manual does refer to "Terrain" but the programs come up showing "3D Terrain", whence the above heading.)

Trusting that an entry incorporating "Info" would provide some information, I selected it. "Terrain Info" proved to be a considerable disappointment. Not only is the graphic information almost trivial but the definitions of Yaw and Pitch have been transposed

QMATHS II - (CONT'D)

("Our Forgetful Authors" again ?), rendering worthless the "information" presented. The manual does get the pitch definition almost right.

The prompt "Press ESC to continue" appears at screen bottom. In the expectation that this would allow me to continue, I did as prompted. Wrong again ! I was, apparently, dumped back into SuperBasic with no hope of continuing. An "LRUN Boot" showed only the initial "Turbo" screen, following which the QL hung. There was no response to CTRL/C, CTRL/Space, ESC, or any function key. The only recourse was to reset and start afresh. Avoid "Terrain Info" like the plague !

Selecting "T" from the main menu brings up the "3D Terrain" menu, with a wide range of options. Distances to the object and the projection screen may be varied, affecting perspective. Yaw and pitch may be changed (the program seems to know which is which), affecting orientation of the object. One may also use cross-hatching, place walls around the surface, or even plot upside down.

A "shape library" is provided, consisting of 19 surfaces and a blank grid. Unfortunately, no hint is provided as to how the shapes are produced or how one might add to the library. The result is that the user is confined to the shapes provided.

Admittedly, the number of variations that can be played on a given shape is potentially huge. But viewing the same shape from various angles, distances, etc. can quickly become old hat.

QLVAL - M. BENDALA

An oft-lamented omission from SuperBasic is the keyword VAL that allowed one to evaluate virtually any expression on the spot. QLVAL provides a pair of extensions to SuperBasic, CMPILA\$ and VAL, that largely fill that vacuum.

In the interests of speed, QLVAL does the evaluation in two steps. First, the expression is translated by CMPILA\$ into Reverse Polish Notation (RPN). This relatively time-consuming step need be done only once. The RPN expression is then evaluated by VAL as needed.

Up to five variables may be used in the expression. If the number of numeric parameters in the VAL call happens to differ from the number of variables defined in CMPILA\$, VAL does not panic. Omitted parameters are assigned default values; unnecessary parameters are ignored.

The following three TURBO-compiled programs use QLVAL, whose assembly source files are supplied in compressed form as part of the archive file. Liberally commented though said files may be, my "conversational Spanish" and associated dictionary are quite inadequate to the task of decipherment.

NUMINT

Numint determines the integral of a single-variable function over a specified finite interval. The user has a choice of Trapezoidal, Simpson's, or Gauss-Legendre quadrature. The latter is offered in the 4-point or 7-point versions. Interval bounds are entered as character strings. One also may enter the exact value of the integral and bounds on the second and fourth derivatives, if known.

QMATHS II - (CONT'D)

It is not clear why one would supply the exact value of the integral, since the manual states that it "is not used in any part of the program.". The manual also says that the derivative bounds are used in "some" of the integration methods but does not give the consequences of not specifying said bounds.

NUMINT operates with three to five windows, inserting or deleting as needed to give an uncluttered display. The up and down arrow keys toggle choices within a window; ENTER activates the choice and generates a new window when required. ESC moves back up the ladder, deleting windows as needed. F4 toggles a trace mode for display of intermediate function values; F5 activates a small scientific calculator.

Selecting "Graph function" produces a window with the choice of plotting with or without the integral curve. Once again we have a case of "transpositis": selecting "with" yields the function without the integral curve and conversely. If "Compute integral" is selected, two windows are presented, the first of which offers the choice of integration method. The second window lists the available combinations of fixed number of points or fixed error and means for determining the corresponding error or number of points, respectively. Picking a combination then generates the appropriate tabular values to nine significant figures. I have found Numint to be very easy to use, quite fast, and to have a pleasing screen presentation.

QALC

QALC provides a multitasking scientific calculator. It may be activated by selecting "Q" on the Qmaths2 main menu or directly by "EX QALC" and will evaluate any of the SuperBasic-like expressions acceptable to CMPILA\$.

The variables x, y, and z hold the results of the three most recently evaluated results, forming a queue with x at the tail. The variables u and v may be set equal to expressions selected by the user. The line f="some expression" is acceptable to QALC. The expression is not evaluated but stored for future use.

The function keys F2 through F5 are used to reset all variables to zero, display all variables, clear and reset the QALC window, or to present for editing the last expression set with "f=", respectively.

GLNIVEL

This program purports to display the level lines (contours) for a function of two variables. While it does do its job, after a fashion, I find that it suffers from inadequate, sometimes misleading, and occasionally downright wrong instructions. In addition, GLNIVEL is afflicted with a poor screen presentation that often leaves one wondering "what now?".

Let me elaborate. Upon firing up the program, we are faced with a totally black (and blank) screen, except for "f(x,y)=" in one corner. Not too bad; we obviously need to type the function here, followed by ENTER (although the instructions don't specify). Next we see "R=["; here we are being asked to specify the rectangle over which the function is to be evaluated. But there is no clue as to order of specifying! The program accepted my (x1,y1), (x2,y2) (coordinates of diagonally opposite corners of the rectangle) and proceeded to do nothing. I found, eventually, that (x1,x2) followed by (y1,y2) was required, with $x2 > x1$ and $y2 > y1$.

QMATHS II - (CONT'D)

Next, we are asked to specify the "resolution", i.e., subdivision of the x and y intervals. No clue is given as to appropriate numbers. Entering too large a number is a fatal error; we are thrown back into the main menu.

Once past all these roadblocks, we find that some of the commands do not function as advertised ! For instance, CTRL/F1 is claimed to ask for a new function but, in fact, does nothing. ALT/F1 seems to be the same as F1 and, finally, Shift/F1 turns out to be the correct command. CTRL/F4 is similarly flawed; Shift/F4 must be used. I also found a substantial discrepancy between a set of contours plotted with the F5 command and the same set done individually with the F4 command.

Finally, the contours are only qualitative, since no numbering is available on either abscissa or ordinate. The "show grid" option does not help here. In my opinion, this program is in no condition to be unleashed upon an unsuspecting public, particularly when said public must pay for it. As they say in the used car ads, "Needs work".

ACALC - L. REEVES

ACALC is a useful SuperBasic extension that allows application of Qmaths1's high precision math routines (previously reviewed; see IQLR 3-2, p. 24) in SuperBasic or compiled programs. RPCALC, the calculator that uses ACALC, is supplied with a 33-digit (decimal) accuracy; RPCALC_BAS is the source file.

Other accuracies, ranging from 14 to 611 digits may be obtained by reconfiguring RPCALC with RPCCONFIG_BAS. Executable files with default names of "rpcnnn" are produced, where "nnn" ranges from 008 to 256 and is the number of stack entry bytes. The configuration program allows alteration of the file names.

The configurator allows the option of incorporating the run-time extensions or not. In order to produce a stand-alone executable file, answer "y" to the prompt.

I find this section of the manual to be quite cryptic, with the majority of it of little help unless, as Lau puts it, "you are into assembly", and are familiar with the intricacies of QDOS (I'm not).

It is not clear why ACALC and its associated routines were not provided in QMaths1; the then "High Precision Calculator" would have been much more useful. Perhaps ACALC was not yet written ?

ABACUS COMPENDIUM - V. SURIN

If "Student's Distribution", "Chi Square", and the like are familiar terms to you, then this collection of 26 (undocumented) Abacus files could be quite useful. Otherwise, it is a marginally interesting example of data compression. Incidentally, the assembly language version of Qlval and the Basic source files for Numint, Qalc, and Qalc are also archived here.

ARC - J. ALLISON

"ARC is a public domain archiving/compressing/extracting utility ...". So states the author. It is supplied here in order to extract the files from "QMATHS2_COMPRESSED_arc". Note that, since ARC is a SuperBasic keyword, the

QMATHS II - (CONT'D)

utility name must appear in quotes, e.g., EX 'ARC'; 'x' (x for extract).

I have not used ARC except to extract the above files in order to see what is in the archive (as distinct from Archive !). The routine "UNPACK BAS" may also be used for this purpose. As an indicator of packing efficiency, the 423 sectors (216260 bytes) of compressed files expanded to 1245 sectors, a packing ratio of almost three.

CONCLUSION

Overall, I cannot rate QMaths2 as highly as QMaths1. The quality level seems more erratic, ranging from very good (even excellent) to so-so to poor. Then there is the matter of mix; example - for a fractal freak (or is it phractal phreak ?), having disjoint disks for two programs such as Qfract and Mandelspeed is galling.

PROLOG PROLOGUE

Upton, Oxfordshire, UNITED KINGDOM - Graham Thwaites

This issue of IQLR sees the launch of GT-Prolog, a new implementation of the Prolog language widely used within industry and academia for the development of Artificial Intelligence (AI) applications and for symbolic programming generally. Although GT-Prolog isn't the first Prolog system for the QL (that honour goes to Hans Lub's QL Prolog, available from the Quanta library) it does seem that information on Prolog within the QL community is somewhat lacking. This article will attempt to redress that situation.

Prolog has its origins in attempts made in the early 1970's to use mathematical logic as the basis of a new programming language. These efforts were focussed particularly on the universities of Edinburgh and Marseilles (the name Prolog is derived from "Programmation en Logique") and culminated around 1977 in the DEC-10 implementation which first demonstrated the use of compilation techniques to achieve acceptable efficiency. The DEC-10 version also established the conventions of the 'Edinburgh' dialect, for many years the de-facto language standard, and laid the foundations for a development methodology and toolset oriented towards high programmer productivity and based on incremental program evolution. Almost all subsequent Prolog implementations for mainframes, Unix-based workstations and personal computers have followed this same route to the extent that a programmer familiar with one implementation expects to be able to move to any other with relatively little effort.

Within Europe the availability of a practical logic programming language led to the rapid takeup of Prolog, especially for problems of an experimental nature, and the language has featured prominently in advanced R&D programmes sponsored at national and European Community levels. Prolog has also occupied a crucial role in the Japanese Fifth Generation efforts. In the USA, however, Lisp had already established a dominant position in term of both hardware availability and programmer expertise and takeup has been somewhat slower. During the early 1980's there was even something of a language schism within the AI community although this has now been replaced by a greater appreciation of the benefits of each language and a more tolerant acceptance of "horses for courses".

PROLOG PROLOGUE - (CONT'D)

For the newcomer to Prolog there are two pleasant surprises in store - the first concerns how simply programs are written in the language itself and the second is the ease in which Prolog programs are constructed using the development environment provided by the GT-Prolog Workbench. It should be stressed that neither of these aspects requires the user to be a logician nor to have any greater level of mathematical ability than is required to use any other programming language.

The Language:

Prolog is based on a small set of concepts which include pattern matching, tree-structured data and backtracking. A program is written as a set of clauses which are stored within the Prolog database. A simple example representing a portion of a family tree covering four generations is given by the following twelve clauses:

parent(walter,ken).	parent(edith,ken).
parent(ken,graham).	parent(kath,graham).
parent(ken,glenn).	parent(kath,glenn).
parent(graham,kate).	parent(angela,kate).
female(edith).	female(kath).
female(angela).	female(kate).

Each of the clauses for the predicate parent/2 (parent with 2 arguments) represents a relationship between its arguments. Similarly the female/1 clauses identify the female members of the family. In these cases each argument is a symbolic constant (an atom) identifying the person concerned. Prolog also supports numeric values, strings, characters, variables and compound data items which combine the properties of records, lists and arrays.

We can interrogate the database using a query as follows:

```
?- parent(ken,glenn).
```

This causes the database to be scanned for a parent/2 clause whose first argument matches ken and whose second argument matches glenn. Each of the first four clauses fails but on the fifth attempt we get a response that the goal was proven unconditionally. The user is then asked whether any alternative solutions should be sought but, in this case, there are no more potential matches and the query completes.

We can also issue a query involving a variable (an identifier starting with an uppercase letter):

```
?- parent(kath,Who).
```

This time the first three clauses fail as the first arguments do not match but the fourth attempt succeeds so we get told that the query is successful with Who matched to graham. However, this time the search will also succeed with Who matched to glenn and so on.

We can also interrogate in an inverse fashion:

```
?- parent(Who,kate).
```

This will give alternative solutions with Who matched to graham and angela successively.

PROLOG PROLOGUE - (CONT'D)

The availability of further solutions is achieved by creating a choice point to remember any further clauses after a particular match has been made. Backtracking to a choice point undoes the effects of any successful matches before trying again. We can extend the usefulness of the database by adding some rules to facilitate extra queries:

```
mother(X,Y):-parent(X,Y),female(X).  
father(X,Y):-parent(X,Y),not female(X).  
grandparent(X,Y):-parent(X,Someone),parent(Someone,Y).
```

The mother/2 clause should be read as "X is the mother of Y if X is a parent of Y and X is female". Similarly the father/2 clause uses negative information "X is the father ... and X is not female". Finally grandparent/2 uses a purely local variable Someone to identify a person who is both the child of X and the parent of Y. Again these rules can be invoked with any combination of arguments. Note that the following query to identify all grandmothers will give two solutions for edith since she is a granny twice over:

```
?- grandparent(X,Y),female(X).
```

In this case multiple nested choice points will be created. When all choice points are exhausted the query completes.

Readers who have been involved in the construction of expert systems will recognise that the Prolog rule structure is naturally backward chaining. However, it is also relatively easy to construct forward chaining or mixed strategy systems suitable for constructing blackboard and other knowledge-based architectures and these are well documented in the multitude of textbooks which are now available. Similarly, examples of using Prolog to build effective game playing and problem solving programs are widely and freely available. Many of these provide user interfaces based on natural language processing, a facility that is supported directly by the Prolog grammar notation.

The examples given here only hint at the power of Prolog and there is obviously no space to cover the full range of data types, control constructs, library procedures and so on. For anybody wanting to look at the language and its usage in more detail I would recommend starting with "Prolog - Programming for Artificial Intelligence" by Ivan Bratko (Addison-Wesley), ISBN 0-201-41606-9. Hans Lub also recommends "The Art of Prolog" by Leon Sterling and Ehud Shapiro (MIT Press), ISBN 0-262-19250-0, although I find this book somewhat biased towards a logicians viewpoint as well as having some minor syntactic differences to the Edinburgh standard. Both of these are available in paperback.

The Environment:

Like its Lisp and Smalltalk cousins Prolog has an inherent self-modification ability which allows an executing program to extend its own facilities dynamically. In Prolog's case this is done by asserting new rules and facts into the Prolog database which can then be invoked by appropriate goals. Existing clauses can also be deleted (retracted in Prolog terminology). GT-Prolog has exploited this facility to produce an integrated compiler, debugger, editor and error handler which together provide a highly efficient environment for the rapid design, coding and debugging of complete or partial programs. The compiler can also be used to produce modules of compiled code which can be loaded several times faster than recompiling from source and provides a mechanism for hiding the implementation details of code which is to be distributed to other users.

PROLOG PROLOGUE - (CONT'D)

The debugger is an enhanced version of the ubiquitous 'Byrd Model' originally developed at Edinburgh University which allows the setting of multiple spyoints. When a spyoint is encountered the execution of the running program is interrupted and an interactive dialogue is entered allowing the program to be examined, modified if necessary and continued. GT-Prolog provides six ports at which user interaction is available. If desired execution between breakpoints can be traced and logged to a window, file or printer. If the code being debugged is free of side effects then goals which fail unexpectedly can be retried with additional spyoints or at a greater level of detail. Runaway programs can be halted by a break mechanism.

As the environment is itself written in Prolog its facilities are also available to user programs so that menus, dialogue boxes and multiple windows can all form part of a user interface. QDOS graphics facilities are also accessible via library procedures and all Prolog I/O maps onto QDOS channels. Potentially dire effects of modifying the Workbench code by changing the database are prevented by marking it as static.

QL Limitations:

The only real limit on GT-Prolog is the amount of QL memory available since the inherent implementation limits are to allow up to 64k instances of any particular sort of object (distinct atoms, functors, clauses, I/O streams etc) and up to 16Mb of data space. To put this in context CHAT80, a geographical database program with a sophisticated natural language query interface and which is probably the largest Prolog program in the public domain (over 128kb in source form), comprises 2965 clauses, 514 functors, 1222 atoms and compiles into 77kb of code.

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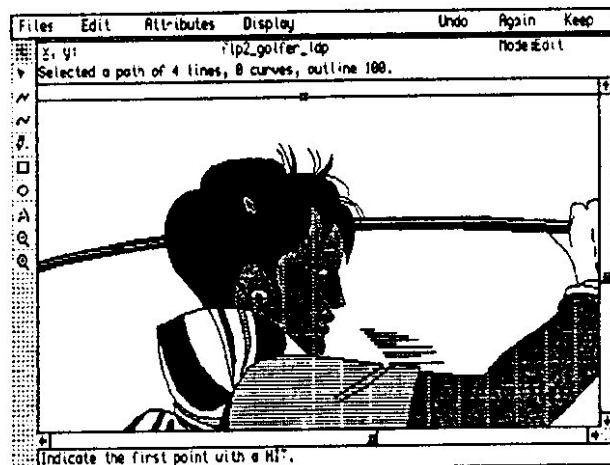
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